SOFTWARE COVERED: 3DS MAX • BLENDER • MAYA • CINEMA 4D • POSER • VUE

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3DArtist

13

Practical inspiration for the 3D community

REALISTIC FABRICS

Create folding medieval cloth fabrics and skin textures using Blender

• 3ds Max tutorial

Volumetric lighting

How to create a sexy fairy in a softly lit woodland

• Step-by-step Poser tutorial

Barbarian Warrior

How to use props and the hair engine

• Your questions answered

Creating fur

Without CINEMA 4D's HAIR module

Plus: Till Nowak – supreme 3D artist, F10 Studios – quality arch viz on a budget

Reviews: Autodesk Maya Animation 2010, Magnifier, Eye Candy 6

inside

• Get that job in 3D

Design viz, film & games

Salaries, interview tips and the training you'll need

• Hints & tips

Baking textures

Bake ambient occlusion renders to texture maps

• Step-by-step

Retro colours

Create a space bar scene with 1950s retro styling

GET STARTED IN MODELLING

Learn the basic techniques from splines to polygons

ON YOUR FREE CD

HD Evolution 2 model
Fully prepared digital actor

Textures and photos
Royalty free images to use

Photoreal Male tutorial
First chapter of new video tutorial

28 Mo-Cap files
High quality files from aXYZ

IMAGINE PUBLISHING

In the Workshop

Projection mapping
Custom Poser maps
Wet Max materials

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Learn in style

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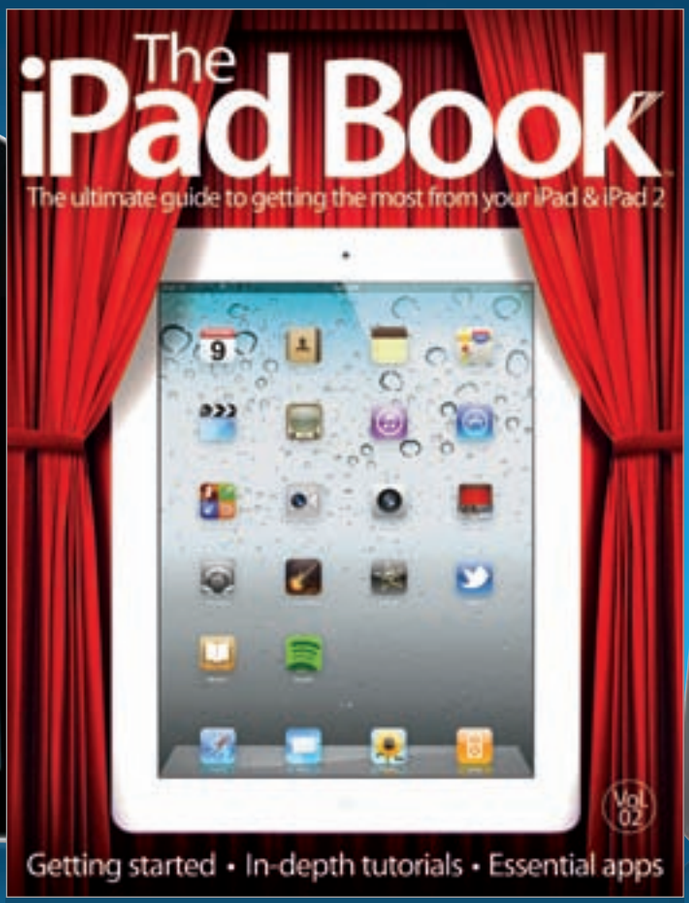
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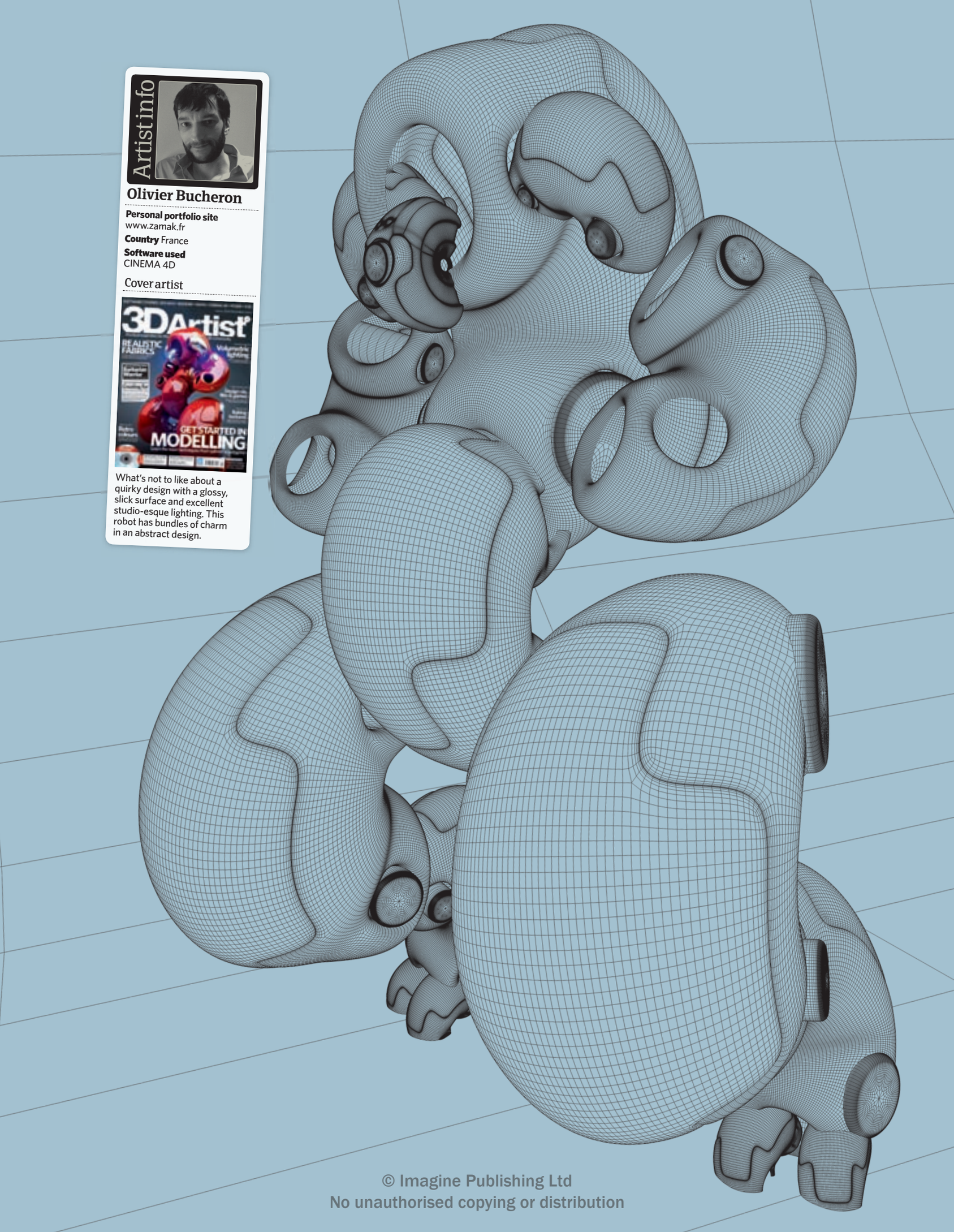

Artist info

Olivier Bucheron

Personal portfolio site
www.zamak.fr

Country France

Software used
CINEMA 4D

Cover artist

What's not to like about a quirky design with a glossy, slick surface and excellent studio-esque lighting. This robot has bundles of charm in an abstract design.

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Welcome

to the magazine and 116 pages of amazing 3D

Every issue you can count on...

1. **116 pages of creative inspiration**
2. Behind-the-scenes guides to images and artwork
3. **A CD packed full of creative goodness**
4. Interviews with inspirational artists
5. **Tips for studying 3D or getting work in the industry**
6. The chance to see your art in the mag!

I hope you enjoyed last month's DVD special issue, whether you're a new reader or a regular to 3D Artist. We'll be doing more special issues over the coming year. Meanwhile, check out the new Workshop section which has a Masterclass feature on advanced topics, the regular Questions and Answers for tips on popular programs and Back to Basics, which aims to illuminate tricky topics for the newcomer. The other feature for those looking for a route into the world of CGI is one on getting a job in the 3D industry. So, if you're a talented enthusiast, or fresh out of college, this feature will explain the different job types and starting salaries. Enjoy the issue.

Duncan Evans,
Editor

This issue's team of expert artists...

Mike Batchelor

Tackling the perplexing problem of projection mapping. Find out how it can save you rendering time

Christian Darkin

Working the 3D reviews section, Christian had plenty of rendering to do with all the 3D apps we give him

Paul Francis

Paul is our Poser expert and comes up with all manner of tips and ideas to make your Posing life as easy as possible

Lance Hitchings

Lance runs a design studio in the States, and also comes up with solutions for all your general Maya-related problems

Dominic Davison

Our resident Vue expert creates images that mortals can only dream of. Dom is here to reveal all about Vue

Daniel Lovas

The guy with CINEMA 4D in his DNA is a sci-fi enthusiast but can solve any problem you may encounter

Michal Suchanek

The aliens have had too much to drink again in Michal's fabulous space drink tutorial. Check out the retro colours

David Crookes

If you've ever wanted a job in 3D but didn't know where to start, this is the place to look. Job types, specs and salaries revealed

Kleber Darcio

You want to make a sexy fairy? Kleber is your man with his tutorial on adding 'come to bed wings' to a sultry beauty

Ryan Knope

When he isn't busy in his architectural design studio, Ryan is available to answer questions on 3ds Max and arch vis

Zoltan Miklosi

Proud owner of the best first name in the 3D world, Zoltan takes a break from world domination for this tutorial

Ivan Ulicny

An amazing image showing a robot investigating a small spider. Check out the details in this futuristic sci-fi tutorial

Sign up, share your art and chat to other artists at www.3dartistonline.com

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It's a jungle out there. Swing through it

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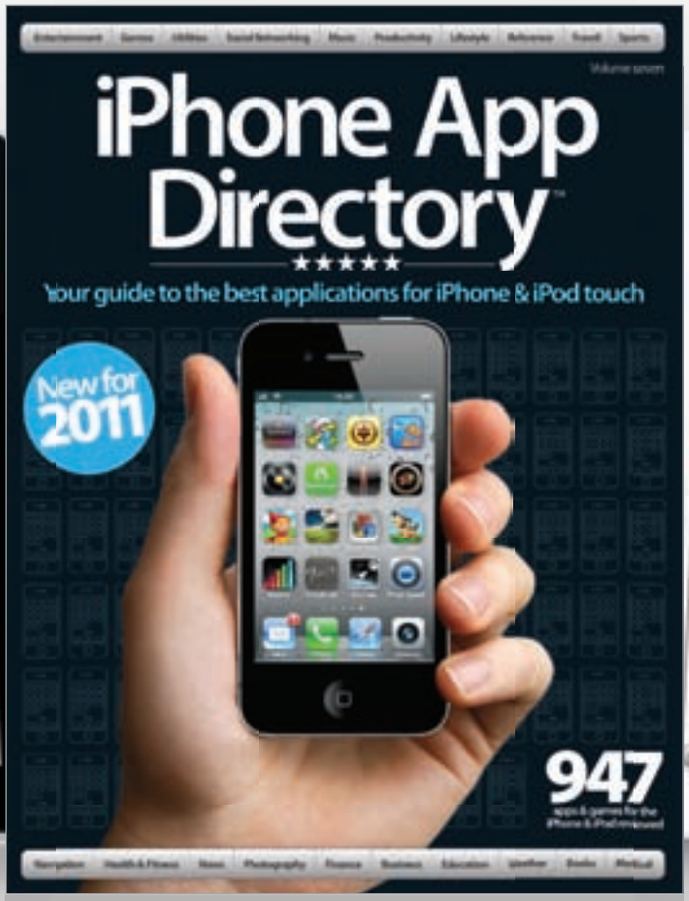

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Create a fantasy illustration

"I like traditional hand-painted portrait images"

Four-page step-by-step walkthrough

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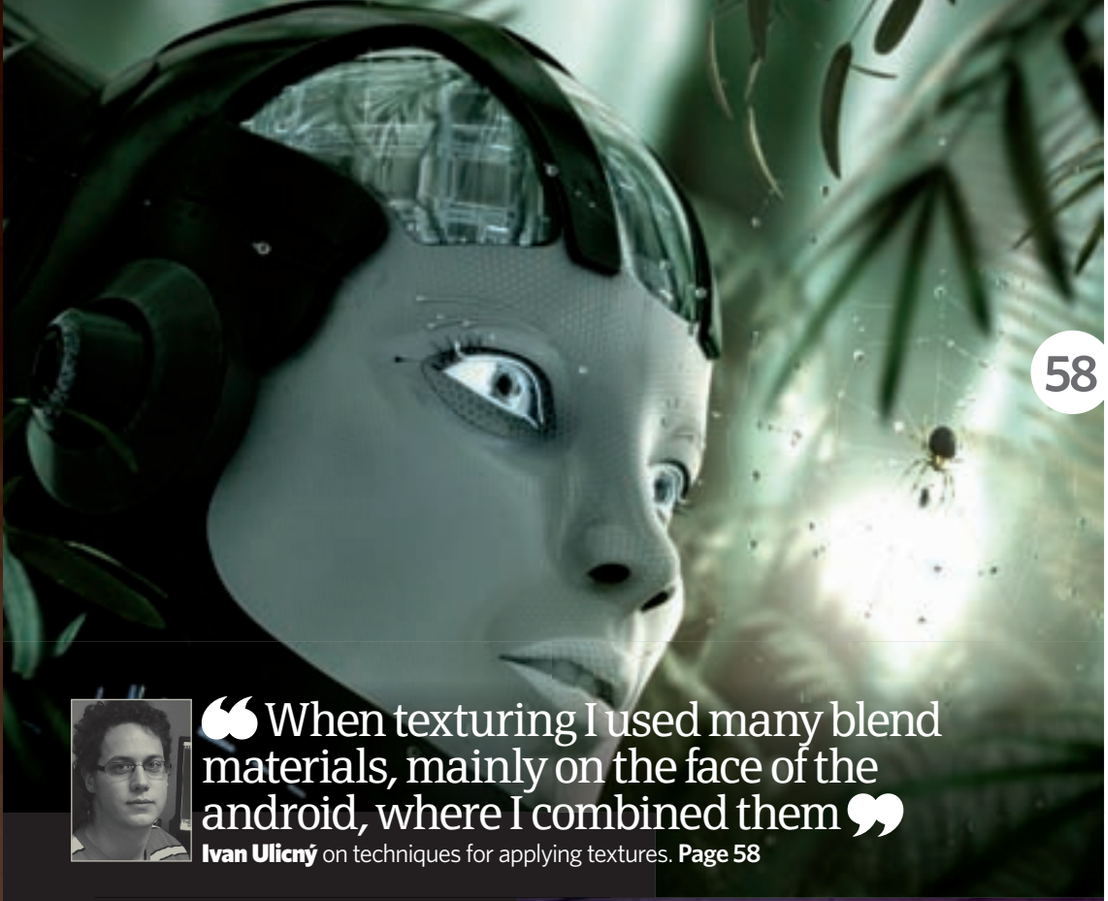

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“When texturing I used many blend materials, mainly on the face of the android, where I combined them”

Ivan Ulicný on techniques for applying textures. **Page 58**

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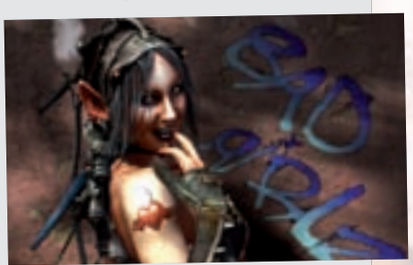

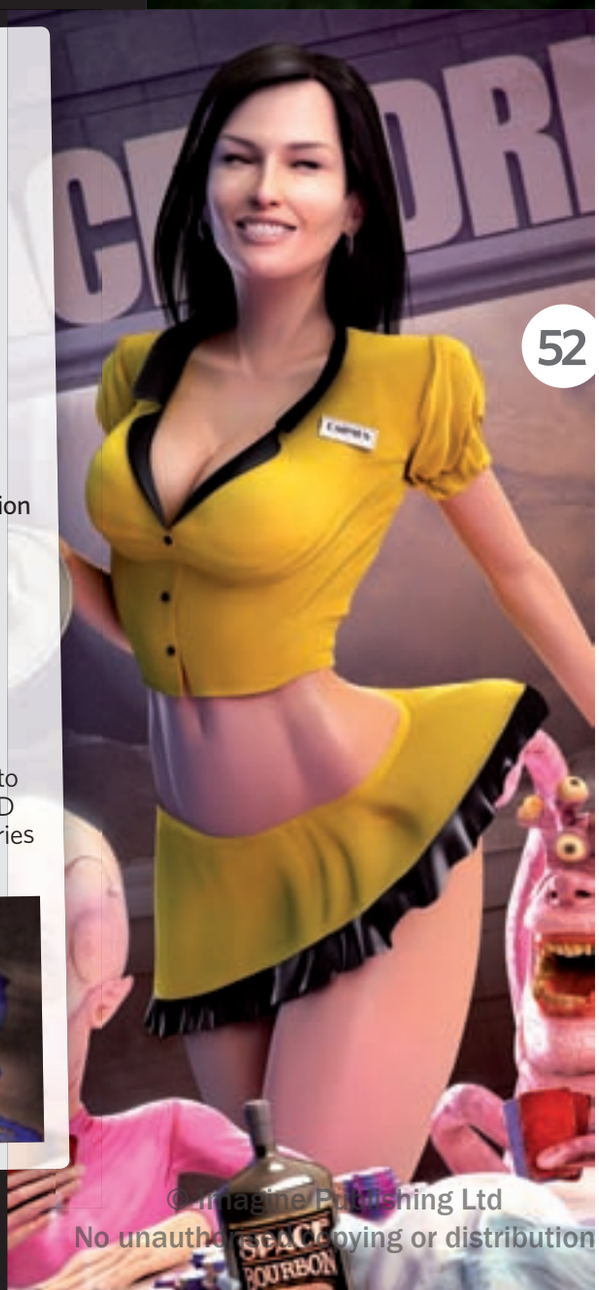

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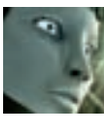

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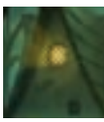

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One for Poser fans with dramatic warrior posing action. See how it was created in this tutorial

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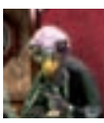

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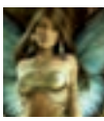

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There's even more inside...

Turn the page to discover the interviews, reviews, industry advice and more that we've packed into this issue...

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See your artwork here...
Create a gallery today at 3DArtist online.com
Share your art, comment on other artists' images

"Plans, elevations and sections are positioned in 3D, and a 3D model is built up from these in 3ds Max"

Nick Homer, Managing Director, F10 Studios. **Page 30**

workspace 3D

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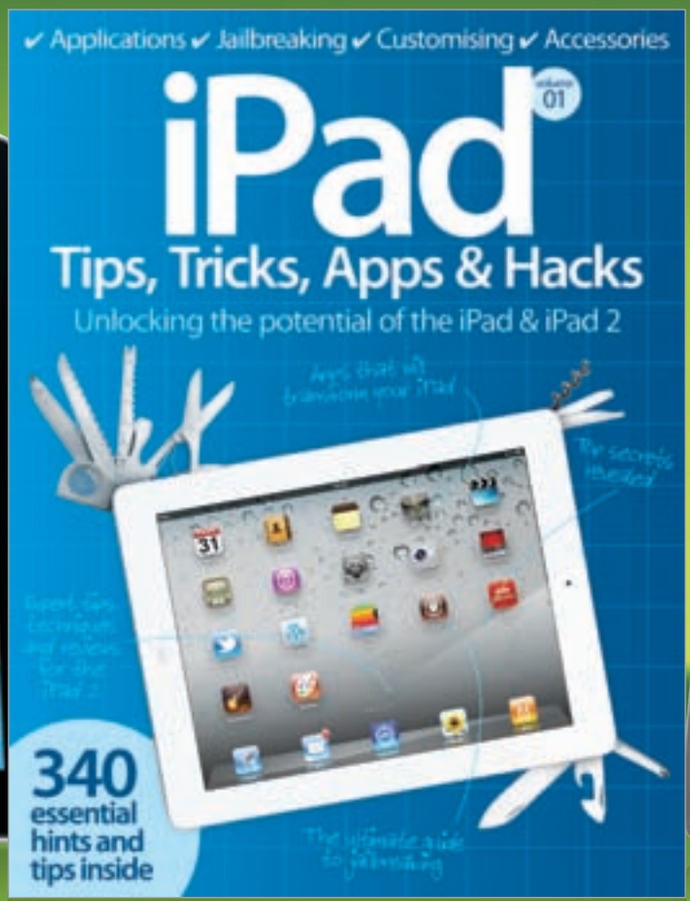

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WELCOME TO THE GALLERY

Nine pages of great artwork from the 3D community

Images we love!

> All the models were created in Rhino, then composed, textured and rendered in Bryce. All the textures were made in Photoshop. This picture is meant to allow free play for your imagination

Cornelius Comanns, *What have you done! 2006*

Artist info

Cornelius Comanns

3DArtistonline.com
Username cernulois

Personal portfolio site
http://cernulois.cgsociety.org/gallery/

Country Germany

Software used Rhino 4, Bryce 6, Photoshop

Work in progress...

Featured artists

Cornelius Comanns

Clever and original image showing what you can do in Bryce

Yaroslav Primachenko

Our favourite cute monster of the month is superbly modelled

Vitaly Misiutin

Fantastic modelling, cloth textures and skin shader here

Ognian Bonev

A painterly yet action-packed war themed image

Andrzej Kuziola

Incredibly cute image with brilliant facial modelling

Tristan Fricker

Really captures the rolling waves and blowing wind at sea

Pascal Ackermann

Super-stylish portrait with superb detail work in the hair

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You'll be missing out on a thriving 3D community, but if you'd rather submit your work by email or post, here's how. Make sure your image is at least 3,000 pixels on the longest side, save it as a maximum quality JPEG or zip it up as a TIFF and email it to the address below. Please include your contact details! If you've created a Pixar-beating animation and want to see that featured on the cover CD, then save it onto a CD and post it to us. You can also send your images on CD. The addresses are:

duncan.evans@imagine-publishing.co.uk

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Comment on more great 3D art...

Head straight over to **www.3dartistonline.com**, register and you can leave comments for other artists. Some of the people featured here already have their galleries, so get online and join our club!

Create your gallery today: www.3dartistonline.com

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Artist info

Vitaly Misiutin

3DArtistonline.com
Username vetalll

Personal portfolio site
http://vetalll.cgsociety.org/gallery/

Country Ukraine

Software used Maya, Zbrush, Body Paint RFM

Work in progress...

“This is portrait of famous medieval Queen who lived in the 12th century. I read an article about her and wanted to create her portrait. Now you can see how I have imagined the Queen of Jerusalem to look”

Vitaly Misiutin *Sibylla Queen of Jerusalem*, 2010

The team Loves

“Great modelling on this character from the haughty pose and expression to the soft fabrics”

Duncan Editor

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“I drew a character called Franky. A freak and an outcast, hated and despised by his own family for being a vegetarian and preferring broccoli to brains. His existence was a disgrace to all of his relatives. I didn't want to lose all the opportunities that a cartoony approach gave me – like Franky sitting on his tale like a rocking chair, or using odd proportions. I tried to create a zombie that everyone would want as a pet”

Yaroslav Primachenko *A Zombie in the Closet*, 2009

Artist info

Yaroslav Primachenko

3DArtistonline

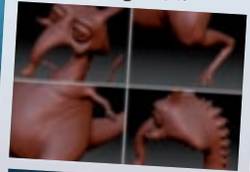
Username YarrY

Personal portfolio site http://www.yar-design.com/

Country Russia

Software used 3ds Max, Zbrush, Photoshop

Work in progress...



The team Loves

“This striking image uses a great colour palette to capture your attention and keep it entertained”

Lynette News Editor

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The team Loves

This fantastic battle scene benefits from a subtle blend of colour, texture and volumetric lighting.

Luke Senior Designer

Artist info

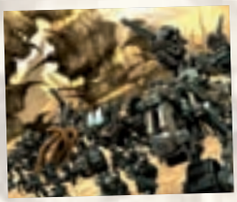
Ognian Bonev

Personal portfolio site
www.northflame.com

Country Bulgaria

Software used 3ds Max, Mental Ray, Photoshop

Work in progress...



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“Personal project, made for fun in the free time. The first piece of a small series focused at some distant military conflict on a small forgotten planet. I wanted to achieve a noticeable 2D (sort of a speed -paint) look of this one so the post-fx & compositing stuff took a significant part of the workflow. Modelled & rendered in 3ds Max and Mental Ray. Textures, part of the post fx, matte painting, compositing and additional corrections made in Photoshop”

Ognian Bonev, *The Charge*, 2009

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The team Loves

"An amazingly cute image with bright and attractive colours. Wonderful detailing on the fur"

Luke Senior Designer

Artist info

Andrzej Kuziola

3DArtistonline.com

Username ak666

Personal portfolio site www.kuziola.com

Country Poland

Software used Cinema4D, ZBrush, Photoshop

Work in progress...

"A little girl always dreamed about a pet. One Christmas the dream came true. You even can't imagine how she was surprised finding out what Santa left for her. A magic kitten! Modelled in CINEMA 4D and ZBrush"

Andrzej Kuziola, *A Holiday to Remember*, 2009

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> This piece is my last personal artwork. It took about three weeks to make during my free time. I wanted to create a peaceful look and feel. I used 3ds Max and Mental Ray for rendering. Post-production in Photoshop

Tristan Fricker, *In the morning light*, 2010

Artist info

Tristan Fricker

3DArtistonline.com

Username Tristocean

Personal portfolio site
http://tristocean.neuf.fr

Country France

Software used 3ds Max, Photoshop

Work in progress...

The team Loves

> Great modelling for the ship and heaving seas really make the image come alive. Great atmospherics as well.

Duncan Editor

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Artist info

Pascal Ackermann

Personal portfolio site http://pascal.ackermann.free.fr/

Country France

Software used 3ds Max, After Effects, ZBrush

Work in progress...

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The team Loves

A striking stylised character with a confident stare. Over-the-shoulder portraits can often appear vulnerable, but this lady is dressed for success, given extra confidence with her beautifully made hair!

Lynette News Editor

Lady FinwÎ was born from the craving to create a Renaissance style portrait, thanks to the inspiring work of Eugenio Recuenco - a fantastic photographer! The concept evolved to become an elf in a modern context, for a change. In elf mythology, her name is traditionally associated with hair

Pascal Ackermann, *Lady Finwl*, 2009

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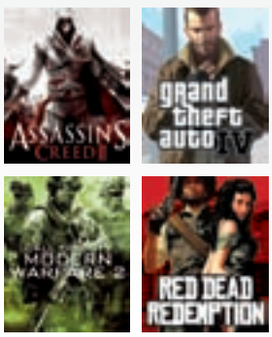

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Adam Droy (left) celebrates his win with Escape founder, Dominic Davenport

CG Whiz unveiled

Escape Studios finds the next top CGI talent

Clip from Adam Droy's showreel

Escape Studios recently launched its aptly titled 'CG Whiz' competition to discover the untapped talents of the next generation of CG artists.

Setting the challenge to budding artists – no professionals allowed – whose one dream is to break into the film, game, TV or commercial industry, Escape invited artists to respond to a YouTube broadcast with a video, animation, or slideshow of images that best showcased their portfolios.

With Escape's success as one of the most successful and well-respected training academies in the world, and in partnership with Oscar-winning VFX company, The Mill, submitters were offered the chance to win a priceless eight-week work placement at The Mill, classroom and online courses at Escape Studios, as well as subscriptions to some top magazines.

Winners were unveiled at an invitation-only ceremony led by the founder of Escape, Dominic Davenport, and 3D executive producer at The Mill Stephen Venning, who awarded the prestigious first prize to an ecstatic Adam Droy, aka spikeycactus.

Venning said: "Adam demonstrated that he has the raw talent required to make it in this industry. His technical abilities need improving but winning a place on Escape Studios' flagship VFX course will give him the skills he needs to flourish during his eight week work placement at The Mill."

Runners-up included Ronan McMeel and Marco Baratto, who each won a place on Escape's Online Maya Course plus a tour of The Mill. You can check out all three winners' responses at www.escapestudios.com/cgwhiz, and their showreels can be found on this month's cover disc.

> "Winning a place on Escape Studios' flagship VFX Course will give him the skills he needs" **Stephen Venning** – The Mill

3DArtist online.com

Did you enter the CG Whiz competition? Discuss this and more with other 3D artists at **www.3dartistonline.com/forum**

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3D web update

New sites and changes to your favourites – it's all here!

Feed your brain

Eat 3D, the home of the comprehensive video tutorial, has released another DVD, this time featuring Michael Pavlovich who takes us through character production in ZBrush 3.5. As usual, training is provided by a CG professional; Pavlovich has been working in games since 2005 and is currently a senior character artist at Sony Online Entertainment. The new release – available to purchase as either a DVD or download – follows on from Pavlovich's earlier introduction to ZBrush 3.5 training, and covers high-res sculpting, PolyPainting, ZPlugins and more.

You can check out Eat 3D's full range of both free and purchasable training at www.eat3d.com, and don't forget that they have an active forum where users can check out DVD reviews, read up on latest releases, as well as post artwork for feedback. So get your teeth stuck in and see what you can achieve with a little help from Eat 3D.

Get muddy!

The regularly updated independent hub for Mudbox users, brought to you by authorised Autodesk publisher Wayne Robson, now hosts his ReLight Version 2 plug-in for Mudbox that allows users to re-light in After Effects without re-rendering. You can pick up the full installer version on the hub: http://mudboxhub.com. While you're there, be sure to check out his new tutorial release, LIVE from Berlin, which is a double DVD covering the entire 3ds Max to Mudbox pipeline.

The Zero fighters are pursued by the P-40s

Masterpiece Romanticising WWII

Spanish artist, Rodrigo Lloret retreats to inspiration from WWII for this stunning scene

Rodrigo Lloret www.rlloret.com

3D artist and World War II vehicle enthusiast Rodrigo Lloret beautifully captures a fierce battle with a serene interpretation in his latest image, *The Retreat*.

Inspired by artwork on WWII scale model boxes, Lloret has produced, with incredible attention to detail and a gentle colour palette, his response to a mid-air battle scene using Maya, Mental Ray, BodyPaint, Photoshop and Combustion. He tells us: "For me, they have more romanticism than the actual war vehicles."

For more war-inspired masterpieces from this artist, visit his website at www.rlloret.com.

Attack of the 50-foot challenge

CGSociety launches the first 2010 CGChallenge

The CGChallenges are the largest online art contests of their kind, which is no wonder considering the prizes on offer to its winners. Sponsors include Dell, Autodesk, NVIDIA, Luxology and Pixologic to name just a few; it's well worth checking out the prize list alone for a reason to dust off that graphics tablet.

This 25th challenge is all about the B-grade movie: CGSociety are challenging artists all around the world to bring those creepy, flickering images of wolf-men, zombies, monsters and aliens to life in either a still image, video, or even an audio piece. The deadline is fast approaching at 19 April 2010, so visit the website today for full details on how to enter: **http://features.cgsociety.org/challenge/b-movie**.

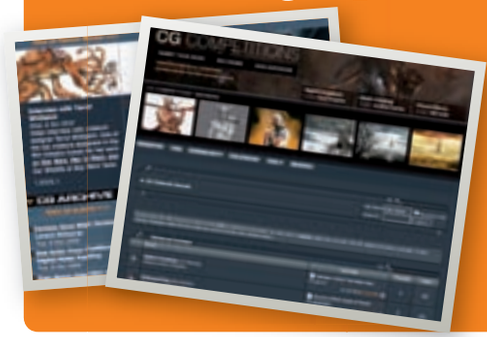
Avatar wins gold

James Cameron scoops awards at the Golden Globes

***Avatar* director James Cameron has walked away with 'Best Motion Picture – Drama' and 'Best Director – Motion Picture' awards at the 67th annual ceremony of the Golden Globes.** With *Avatar* now the highest-grossing movie of all time, overtaking Cameron's earlier *Titanic* success, which held the title for 12 years, the sensation continues and it's expected that the epic sci-fi will reap even more awards at the Oscars this year. With Cameron now making history as director of the world's top two highest-grossing movies, what's next? It has been announced and confirmed that there will be two sequels to *Avatar*, which are now fuelling debates as to how they might top the original. You can follow updates on the official movie website: **www.avatarmovie.com**.

Website of the month

Dedication to computer graphics www.cgchannel.com



CGChannel covers all the news, features, interviews, production coverage and tutorials that you need to stay on top of your game in the visual effects, game development and digital art industries. With the website updated daily – sometimes even over the weekend – and a full archive of past coverage, CGChannel sets itself as one of the leading websites for CG artists and enthusiasts. Sign up to the thriving forum community and you'll also benefit from their frequent competitions run by industry professionals, such as Digital Sculpting hosted by The Gnomon Workshop's resident artist Ryan Kingslien.

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Free 3D Resources

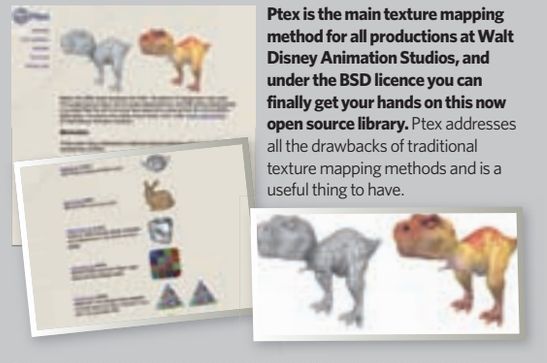
Free 3D resources

Check out this free stuff for your 3D projects – from tutorials to animation resources!

Disney Ptex library

The Disney Ptex library has been made publicly available to texture artists, lighters and modellers everywhere

Web: http://ptex.us



Ptex is the main texture mapping method for all productions at Walt Disney Animation Studios, and under the BSD licence you can finally get your hands on this now open source library. Ptex addresses all the drawbacks of traditional texture mapping methods and is a useful thing to have.

The Foundry

Professionals from Weta Digital and Digital Domain assisted The Foundry in creating free Nuke tutorials

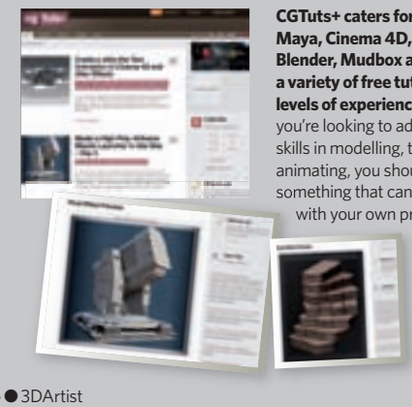
Web: www.thefoundry.co.uk

The Foundry is a world leader when it comes to visual effects and image processing technologies for motion pictures and video post-production, and they've been working with industry professionals to come up with a free tutorial collection for those looking to incorporate Nuke into their pipeline. Covering everything from Basic Workflows and General UI, to Keying and Colour Space, the free tutorial set comprises of over 50 videos.

CGTuts+

Offering free tutorials for the beginner, intermediate and advanced artist, CGTuts+ is packed full of useful advice

Web: http://cg.tutsplus.com



CGTuts+ caters for 3ds Max, Maya, Cinema 4D, ZBrush, Blender, Mudbox and more, with a variety of free tutorials for all levels of experience. So whether you're looking to advance your skills in modelling, texturing or animating, you should find something that can help you with your own projects here.

3D Artist goes mobile

Latest digital innovation brings 3D Artist to the iTunes App Store

There is now a 3D Artist App – which comes with a free digital issue for you to test run – allowing you to flick through, zoom in, read and share the magazine on your iPhone or iPod Touch. And if you like what you see, grab yourself some back issues, pick up new releases, or even subscribe to the digital version of 3D Artist so you can be sure to never miss an issue of this very magazine.

You can expect great things from this App in the future, with the likes of video clips and web links coming into play that will make the magazine more interactive and enjoyable when on the move and armed with Apple's technology.

To find the App and try it out today, simply type "3D Artist" into the search window in iTunes, or follow the link on www.3dartistonline.com, and see how good we look digitised!

work in progress

Estonia inspires seasonal renders

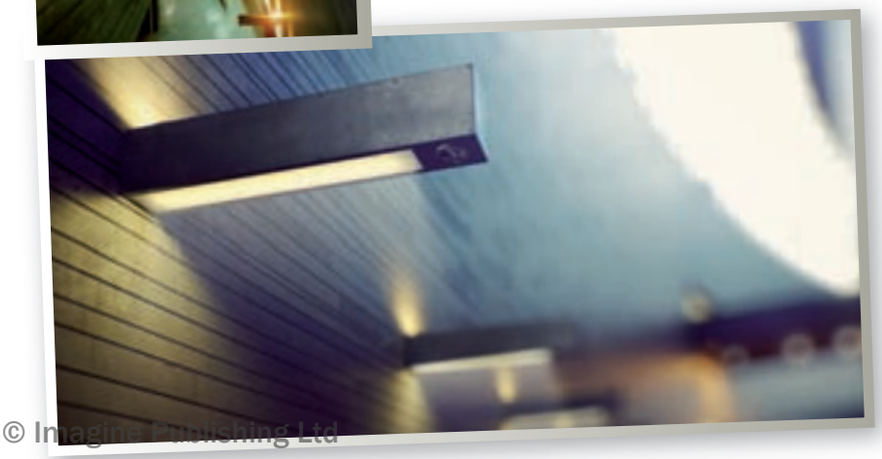
On a visit to Tallinn in Estonia, architectural 3D master, Viktor Fretyán stumbled across the KUMU art museum and knew there and then that he'd have to recreate it in 3D

Viktor Fretyán http://radicjoe.cgsociety.org

Wandering through the forest in Tallinn, Fretyán discovered the magnificence of the city's art museum, as he explains: "I couldn't believe my eyes: it was the most beautiful building I had ever seen."

With the KUMU building now ranked as one of his favourites of all time, Fretyán set about modelling the architecture in 3D, with the objective to create a variety of winter and rainy day scenes, as well as night-time environments, from both interior and exterior perspectives. He also plans to render close-ups and massive panoramic shots to satisfy his fascination of the museum.

Still far from the finishing line, we can expect great things from this new series of images to be added to Fretyán's portfolio soon.



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Artist spotlight

Apocalyptic horror

Nicholas Crombez has been blowing minds in the CG community with an epic, 100,000 pixel-wide creation, Deu Ter Ror

Nicolas Crombez www.deuterror.org

***Deu Ter Ror* has exploded onto monitors far and wide, depicting death and carnage with both medieval and industrial connotations.**

Made in LightWave 3D, this awe-inspiring image took its creator around one year to complete and is part of a much larger project involving sound. Composited from five renders in total, each around the 18,000-plus pixel region, the final panoramic can be viewed online in all its glory – at full size – giving viewers a chance to witness something truly unique. Nicolas Crombez plans to create more images for his portfolio, mainly centred on his faith, as well as inspiration drawn from Belgium and its folklore, and also hopes for exhibition opportunities in his hometown, Tournai.

You can experience Crombez's masterpiece at www.deuterror.org/dtr.html

On the Disc

You can see the full panoramic on this month's cover disc **full.jpeg**

Software shorts

Get the lowdown on updates and launches

Silo 2.2 Beta for PC and Mac

Silo is an affordable 3D modelling application that allows users to naturally switch between organic sculpting and hard-edge modelling when working on anything from characters to architectural pieces. And what's more: it's affordable. You can now download the public Beta version of Silo 2.2 from the Silo forums: www.silo3d.com/forum/showthread.php?t=16780

Get your 3D-Coat on

3D-Coat, a helpful tool for artists looking to sculpt and speed up the texturing of 3D objects, has been released in its 3.2 version. It comes with a whole host of changes to the likes of its UV and volumetric sculpting tools, as well as bug fixes, and an updated user manual. More information can be found on the website: www.3d-coat.com/3d-coat-32

Tools of the trade

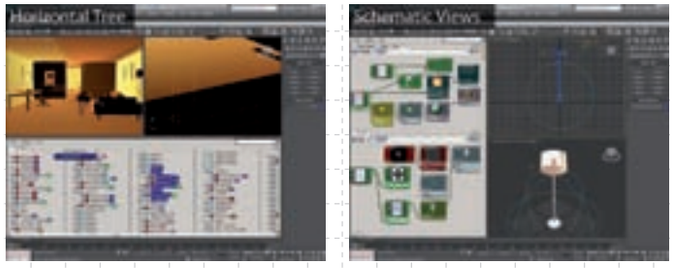
ZOOKEEPER VERSION 1.0

Increase your productivity

When 3ds Max becomes difficult to navigate, Zookeeper steps in with its management system that allows you to simplify your scenes and increase Max's usability.

Efficiency is as important as the final results, so when makers of Zookeeper asked industry professionals for their verdicts of the beta version, the general feedback was that once you use Zookeeper you'll find it hard to go back to life without it.

Any 3D artist will know the complexity of navigating their scenes when they have thousands of objects, comprehensive material setups, intricate layer systems and even rigs, but Zookeeper aims to deal with these issues, making processes faster – and let's face it more enjoyable – with advanced tree views and layer panels to name just a couple of its tricks. Trial Zookeeper Version 1.0 for free at www.ephere.com/plugins/autodesk/max/zookeeper



The intuitive tree structure of Zookeeper

3DArtist online.com
Create your gallery, browse the artwork, chat with experts and artists and get tips and techniques at
www.3dartistonline.com

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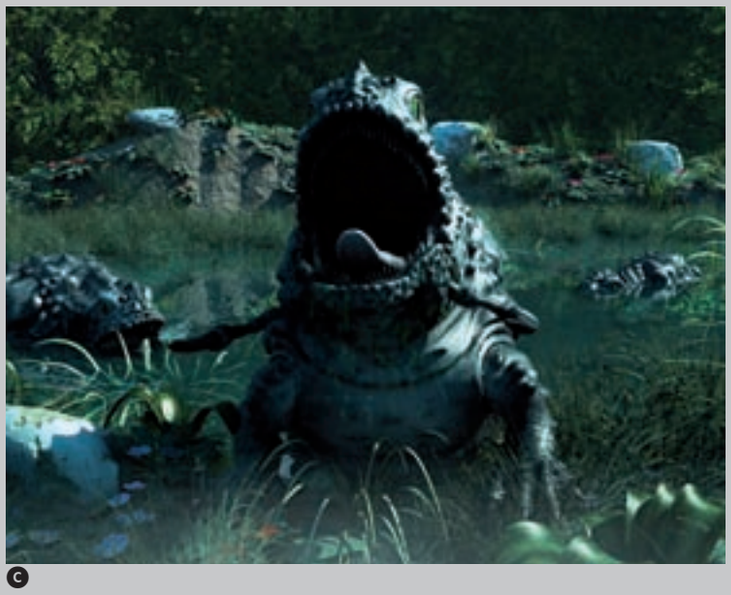
Roll up, roll up, take your seats ladies and gentlemen for the travelling 3D Artist Gallery

A

B



C

A Routine Patrol K7
» **Sungho Lee**
Sungho says: "Modelled in Maya, rendered with Mental Ray with post work in Photoshop. Futuristic mechanic in a ruined city. It took me three months from start to finish."
We say: Ruined cities are all the rage at the moment and this has a nice painterly feel to it.

B Alpine Christmas
» **Dominic Davison**
Dom says: "Uploaded too late for Christmas, I know, but this came 2nd in the Renderosity Christmas holiday competition 2009. Composed in Vue with models from Daz and Cornucopia."
We say: Another nice and festive scene from Dom.

C Don't Go Near the Water
» **David Constantine**
David says: "Beasties posed in Poser and rendered with Vue."
We say: Nice prehistoric feel to these monsters of the swamp. You've skilfully integrated the Poser monsters into the environment and the scene itself does convey a convincing swamp atmosphere.

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Picture of the month

Share your art
Register with us today at
3DArtist online.com
www.3dartistonline.com
to view the art and chat to the artist

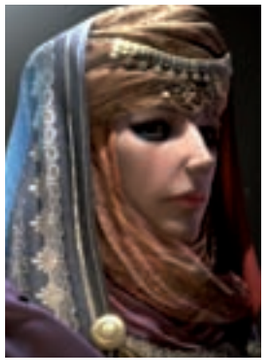
Ⓓ

Ⓓ Masquerade
» **Thibaut Claeys**
Thibaut says: "This is a portrait of a girl wearing a Venetian mask."
We say: Great colours and excellent modelling of the feathers in the mask make this the winner of the Picture of the Month award.

Pictures of the week

THESE ARE THE IMAGES THAT WERE AWARDED PICTURE OF THE WEEK IN THE LAST MONTH

Old Street 2
» **Andy Child**
Andy says: "Final render of Old Street that was posted previously. Modelled in 3ds Max with MR and post-work done with Photoshop."
We say: Lots of lovely wall textures, and rather unexpectedly, a covering of snow on the street as well.



Sibylla, Queen of Jerusalem
» **Vitaly Misiutin**
Vitaly says: "This is a portrait of Sibylla, Queen of Jerusalem in the 12th Century. For this job I used ZBrush for displacement and normal maps and BodyPaint for textures. I modelled, lit and rendered it in Maya."
We say: Excellent head model with great fabrics and an authentic feel.

Salome
» **Henno Drop**
Henno says: "My goal was to create an image of one of history's most infamous seductresses. Salome was a favourite subject among artists from the second half of the 19th Century and the early 20th Century."
We say: Superb modelling, great colours and a splendidly ghastly theme. First rate.

An autumn day at Stratford-upon-Avon
» **Kiadaw Phua**
Kiadaw says: "This image is inspired by my wonderful time in England, the beautiful landscape, historical places, and of course the beautiful girls and their attires."
We say: Lots of style and attitude and the reflection off her tights is a nice touch.

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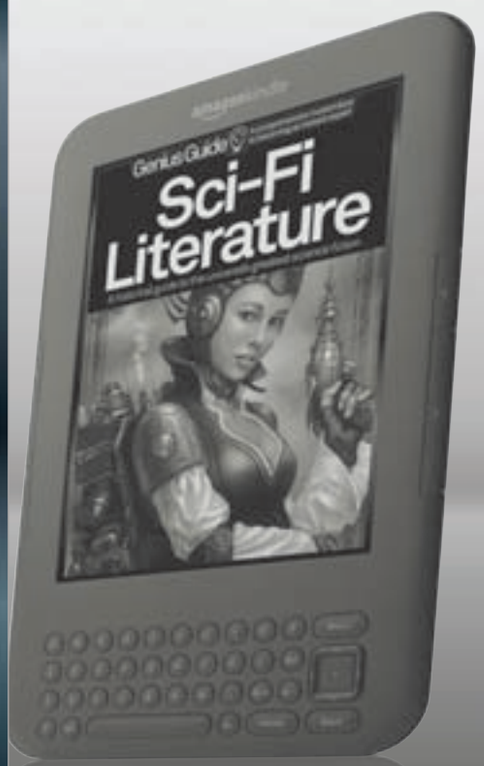
Pass our knowledge off as your own

iPad

Printed full colour large format book



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Going into space

I have just bought my copy of **3D Artist** issue 11 and I was amazed at the resources, in particular the 3D models from NASA, no less. And these are genuinely from NASA! Not only were there the models but also the plans for the international space station. Unlike Microsoft, which only releases coding when forced, NASA has obviously recognised how important it is to share technology, and has decided to make its plans open source.

Just imagine the look on the faces of those engineering types, who think they are soooo clever to build a boat, a vintage aeroplane or supersonic jet car, when I wheel out *my* space station...

Mark Taylor, by email

It's very good of NASA to release models and plans for everyone to enjoy and the best thing about them is that they are completely free to use in personal or commercial projects.

A fresh look at sci-fi

I'm a reader of **3DArtist** magazine and a registered user on the website. Because there are a lot of users, I would like to show my artwork directly to you via email.

My image describes a cold, alien planet, full of ice, contrasting with the darkness of space, and a lost biohazard package in the middle of the ice desert. The package is unknown but could be very important for both sides – something like a scene from the Western *High Noon*. They are waiting for any move, and wondering what it is. Unexpected confrontation and discovery...

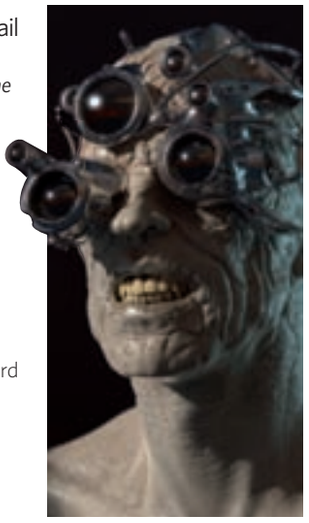
I've tried to show the sci-fi mood in a different way, full of colours and really cold, without dirty, strange textures, dark yellow lights and mysterious fog, as is usual. I wanted to give a fresh look on the subject. In my opinion, ice scenery isn't easy to create and is not popular among artists.

I used Silo for the figures, Vue for scenery and Photoshop for composition and colour correction. Global radiocity light and spectral atmosphere model. I rendered six different layers (figures, environment, sputnik, etc) and made one in Photoshop. Render time of scenery was ten hours, and the image took around four weeks to complete.

If you like it I'll be happy. I'm a hobbyist not professional.

Jedrzej Sergiusz Tarkowski, Poland, by email

Pretty good. You might want to take a look at the textures on the alien as they seem quite flat, but it's a good effort.



Steampunk cyborg

The image was developed from one of my concept sketches for a kind of Steampunk cyborg. It was box modelled in Modo, and the head base mesh was exported to ZBrush for detail sculpting and texture painting.

This mesh was then brought back into Modo along with the displacement and texture maps, for final surfacing lighting and rendering the image.

Specular, diffuse and reflection passes were generated and compiled in Photoshop to produce the final image. The metal optics were box modelled using a subdivision mesh in Modo.

James Stothard, Oxford, by email

Ghoulish but well observed and nicely detailed.

Hail to the NURBS

I'd like to point out a very nice piece of software I've used extensively. I'm sure other artists would find it useful. It's called Moment of Inspiration (MoI) and is not well known yet, but it deserves to be.

I've never found a NURBS/Solids modeller that's easier to use. It has some incredible features and the support is unmatched. Check it out at **moi3d.com**, especially the forum. It would be nice to see some coverage on it in the magazine. MoI also has a fantastic NURBS to Mesh converter, so when you work in NURBS you can export an excellent mesh. This also makes it great for converting IGES files into meshes for any of the popular packages – something that's hard to find, it seems. It's also very stable.

Len Krenzler, by email

Ice Planet
Jedrzej tackles the tricky problem of creating icy surfaces in his sci-fi meeting of two races

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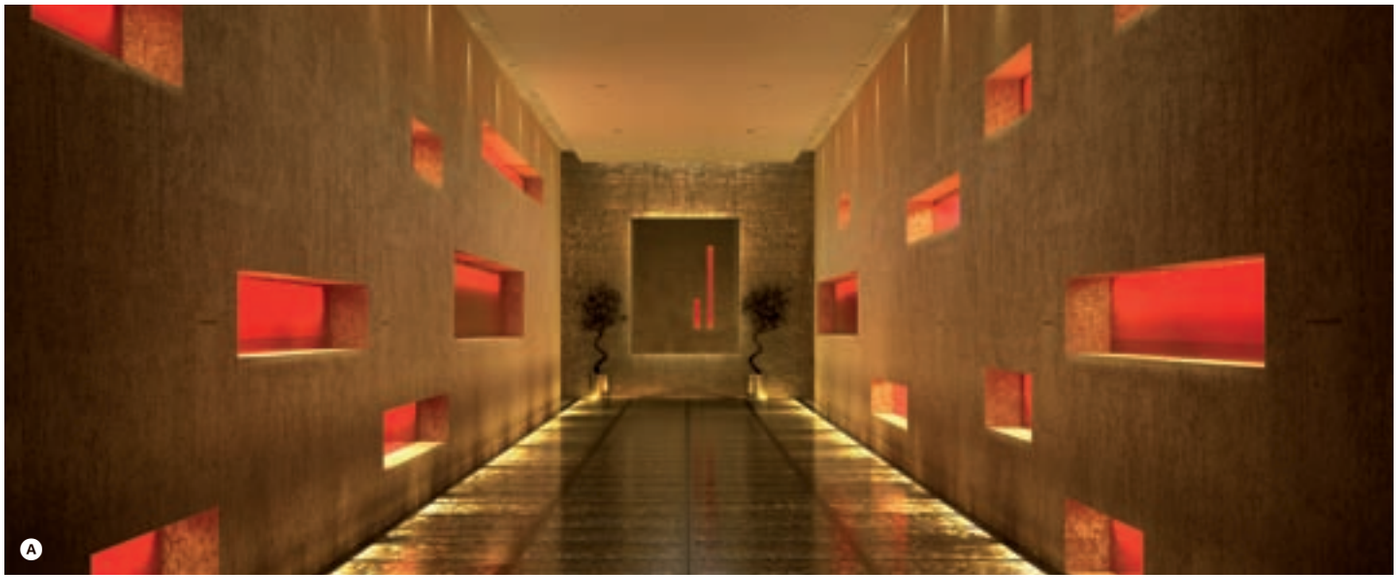
Duncan Evans talks to Nick Homer about running a small architectural visualisation company in difficult economic conditions



Pressing all the right keys

Company F10 Studios Ltd
Founded 2008
Company website www.f10studios.co.uk
Country UK
Software used 3ds Max, V-Ray, Photoshop
Expertise Architectural visualisation
Client list LCE Architects, Blue Edge , West Pier Trust

> "...to see very positive images of it in full glorious colour, as it used to be in its heyday, was a very welcome change"

Nick Homer is the managing director of F10 Studios

It's unusual for anyone to start a business in the middle of a recession, but that's exactly what Nick Homer did with F10 Studios, an architectural visualisation firm on England's south coast. By starting out when times were hard, though, Nick was able to run a cost-conscious business, ensuring low overheads and great value for customers.

F10 Studios is based in the heart of Brighton, right in the thick of the vibrant and creative North Laines area. The core team is made up of only three people, but there's a large network of reliable modelling and visualising freelancers, so the team can expand when needed without the overheads, and risks, that have been very apparent over the last year or so. If F10 needs other skill sets, it can call upon some of the many other local creative companies on the doorstep.

3D Artist: *What are the main services you offer and areas of CGI that you cover?*

A *A golden hallway in a hotel designed by LCE Architects*

B *Hotel concept in an urban setting from LCE Architects*

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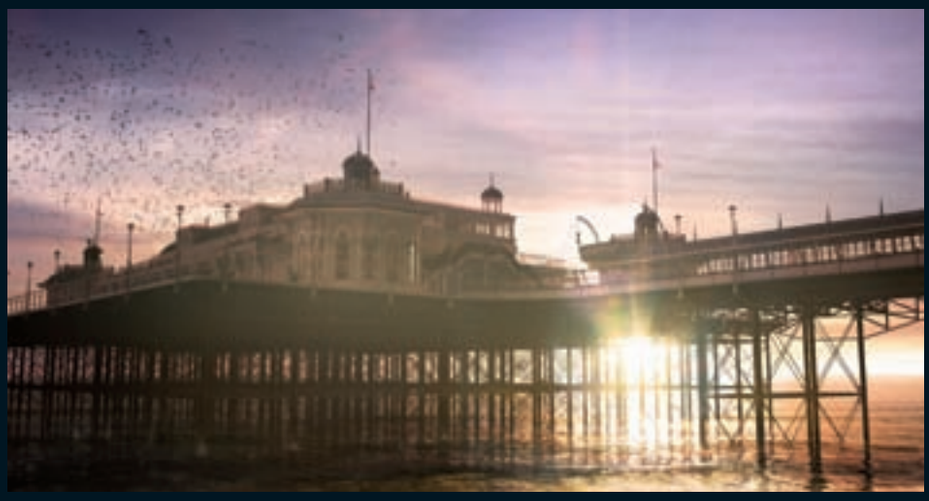


Key Project

West Pier

In April 2009, F10 Studios was approached by Brighton's West Pier Trust to graphically restore the pier and provide visualisations that illustrated the pier in its heyday. F10's brief was to capture the true beauty and romanticism of the much loved piece of seaside architecture as it was in 1920. Creative director Glen Bruckland said: "The first challenge was piecing together the original plans and drawings, some dating back to the 1860s. Some of these prints had not seen the light of day in years, and the job of pulling all the information together was a huge task in itself. Fortunately local structural engineering firm HOP was also able to provide several digital drawings, which assisted with the main structural modelling.

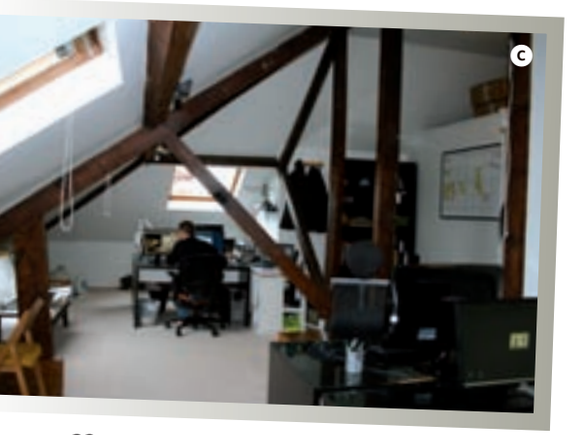
In order for the images to be convincing, a high level of detail was essential. The West Pier Trust also provided plenty of reference photography from the 1920s, which was vital for adding all these details. In all it took over a month to model, with detailing going down to individual nuts and bolts."

Rachel Clark, general manager of the West Pier Trust, said: "Being able to preserve and show off to a new generation this wonderful part of British architectural history is extremely important to us. The stunning visuals produced by F10 have done just that, and we are looking forward to working with them on future projects to help our cause."

Nick Homer: We aim to go the extra mile with both stills and animations, creating compelling imagery that assists architects and developers all the way from concept design through to successful bid applications and marketing tools.

3DA: *Is there are particular style or philosophy that you bring to your projects?*
NH: Understanding the key messages and working out the most effective approach to each individual project is vital.

We love to create punchy dynamic images that stand out and grab your attention. To make images convincing, the difference is in the detail, and we strive to add as much as possible in the timeframe.



3DA: *Who are, or have been, some of your main clients?*
NH: Our team has many years of experience working with many UK and international architects like Fosters, and has been a helping hand in some very high profile wining bids such as London 2012 and Glasgow 2014. We have also worked together with LCE Architects on a number of projects.

3DA: *What is the most interesting/rewarding architectural visualisation project you've worked on?*
NH: Our work last year with the West Pier Trust, recreating the West Pier in Brighton, was a very interesting and rewarding project.

It needed to be a very detailed model, so there were plenty of 3D challenges like modelling from 100-year-old design sketches and worn-out black and white reference photos, and creating many weathered materials – quite complex V-Ray blend materials were extensively used.

The reaction that the set of images received from people, who were very passionate about the pier, was incredible. I think people are so used to seeing colour photos or paintings of it burning down or in tatters, that to see very positive images of it in full glorious colour, as it used to be in its heyday, was a very welcome change.

The goal was to help regenerate interest in the Trust's plight, and we feel we did.

3DA: *What software tools do you regularly employ and why?*
NH: 3ds Max and V-Ray are our primary weapons of choice and everything we do is created by them – maybe with the odd help from another plug-in or two.

We have all been using Max for many years, and so it is second nature now. Like most software, it likes to throw in challenges from time to time, but on the whole it is a very good bit of kit, and with V-Ray on top, which has established itself as the de facto standard in arch vis rendering, we find we have a very effective tool set.

3DA: *How many people typically work on a project, either in-house or externally?*
NH: A project can range from one person for a day or two for a quick CGI, through to collaboration between ten of us and other companies in the area, lasting a month or two. There are many creative companies based around us, so there are always

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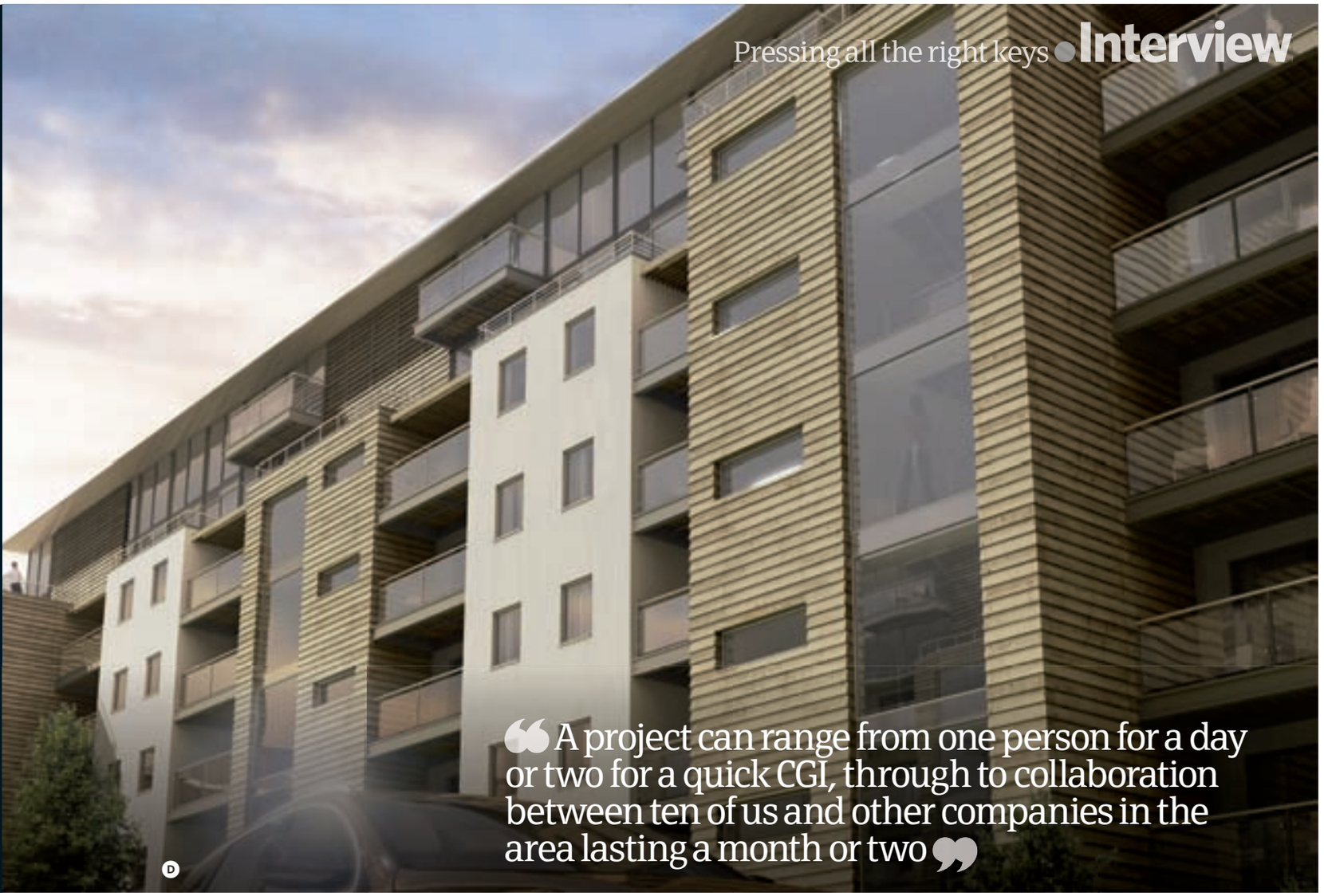
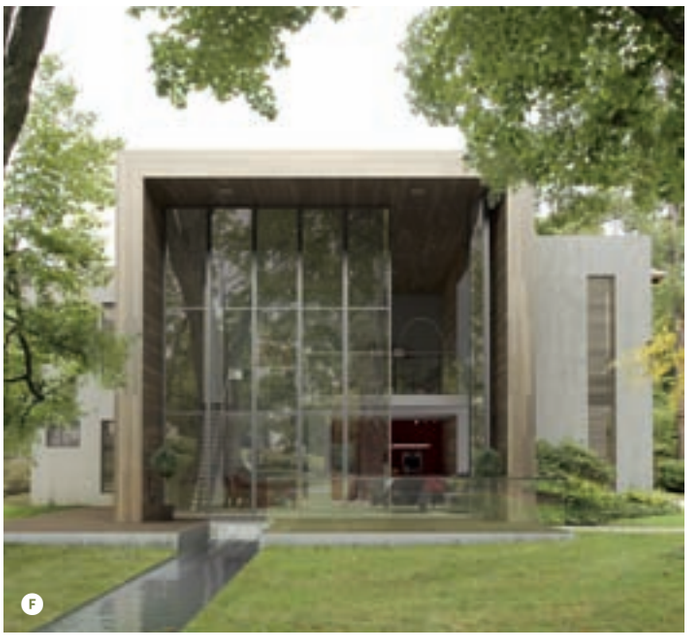


> A project can range from one person for a day or two for a quick CGI, through to collaboration between ten of us and other companies in the area lasting a month or two

E *International fountain design project*



F

C *Busy at work in the F10 Studios office, where a small team means low overheads and costs for the client*

D *A mixed use architectural visualisation theme for Blue Edge*

F *A private residential project showing the latest design thinking in terms of materials and style*

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opportunities to bring different specific skill sets on board.

We work very closely with our neighbours Blue Edge (blue-edge.co.uk), as their skill sets complement ours very nicely – with them producing a broad range of visual solutions that our 3D content can be used in.

3DA: *Can you give us some idea of the actual production pipeline for producing an image or set of images for a client?*
NH: The process can vary depending on the client and the stage of the design process that we get involved in, but the basic formula is to start with understanding the key messages. From that we can decide on exactly what the views are of, and so what needs to be modelled. There is no point in modelling things we don't see, so it's very important to get this signed off straight away.

We then take the client's 2D Cad files and import them into 3ds Max. Plans, elevations and sections are positioned in 3D, and a 3D model built up from these. We stay in close contact with the architect during this modelling process, as quite often designs are not final or are incomplete, until we have all structural design signed off.

> "Undoubtedly there has been a slowdown, although there is still plenty of work out there. F10 was set up at the beginning of the recession, and keeping overheads down was always a priority"

G *A concept hotel designed by LCE Architects showing a luxury development fitting into the natural environment*

H *National Park, design led by Mark Keville of LCE Architects*

While working on the lighting and materials, and with all views signed off, we can start adding the extra design details into the 3D model. When all this is complete we render the scene out, using V-Ray elements so we have total control when we are in Photoshop. We will always do a load of elements, in particular a good selection of Multi-Matte elements for individual object control, an AO pass, depth, and also various lighting. Reflect and refract ones are always handy.

3DA: *Have you been involved in any, or would you be interested in working in the Gulf states, which house a number of high profile projects?*
NH: We have done some big exciting international projects, but not in the Gulf states yet. We would love to get involved in projects out there with other world-leading architects.

3DA: *The building and visualisation industries have both been affected by the global recession. Have you noticed a slowdown, and what have you done to counter this downturn?*
NH: Undoubtedly there has been a slowdown, although there is still plenty of work out there. F10 was set up at the beginning of the recession, and keeping overheads down was always a priority. In this competitive market this means we can keep costs low without sacrificing quality, which seems to be a winning combination with our clients.

3DA: *What are your plans and ambitions for the company in the future?*
NH: We want to continue pushing ourselves creatively and technically, and improving our work so our reputation continues to grow.

We would love to get involved in supplying architectural work to the documentary or film industry. If there's a film being made that is set in Brighton 100 years ago that needs some scenes set on the West Pier, then we can definitely help with that right now!

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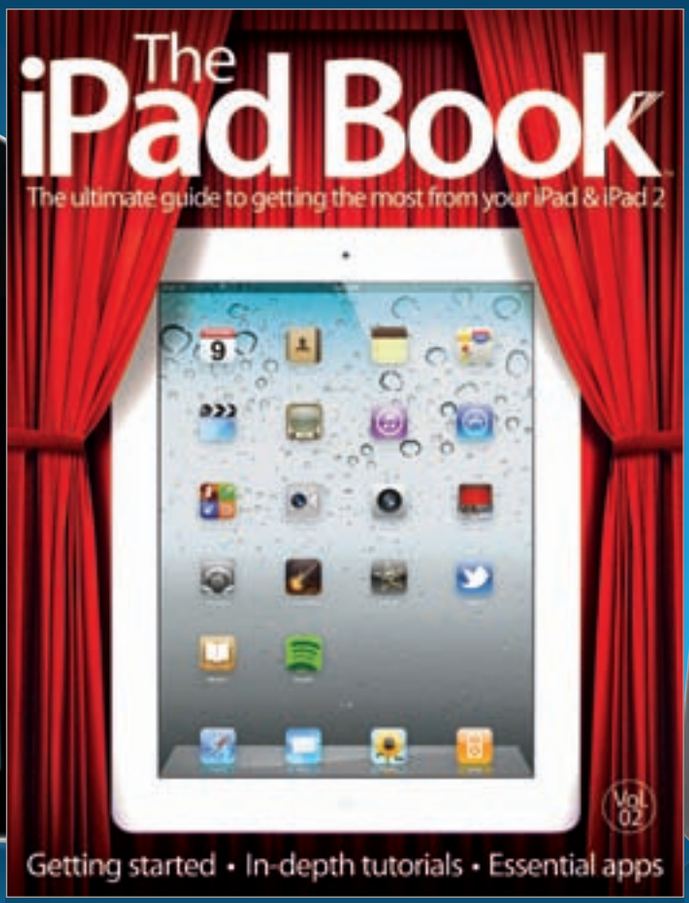
Learn in style

iPad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Get your foot in the door

How to get a job in 3D

Times may be tough but there is work out there for talented 3D artists. David Crookes explains

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So you want a job as a 3D artist? You may have started dabbling in 3D as a hobby or you may have taken it to the next level by embarking on a short course or even a degree. Now you've honed your skills, seen your work in 3D Artist or, at the very least, believed you can do just as good or better and you want to work in the third dimension for a living. But just how do you go about it?

First of all, identify your strengths and weaknesses. Are you better suited to working creatively with 3D, or are maths and physics more your thing and are you therefore better equipped for the more technical side of the 3D industry? Whatever the answer, you will need a strong showreel so you need to keep on top of your game. .

When you produce a showreel, make sure it contains graphics that are relevant to the industry you are targeting. Don't include filler and don't waste time – get to the point, show off your best work at the start and end, and keep it short. Place it on a DVD (and make sure it works because many employers say they receive duffs), then knock out a CV and cover letter clearly stating the role you are applying for.

Many people who find work in 3D would encourage entrants to embark on some form of formal training (see Learn the trade). Take advantage of courses, training DVDs and online videos. Work through tutorials in 3D Artist and specialist books. Bear in mind that many people are prepared to pay up to £500 for a good course and that you often reap what you sow.

Courses not only give you better overall knowledge and skills, but they also give you a closer experience of working in the industry. Many courses are designed and taught by tutors with decades of experience. Escape Studios, for example, has an animation course run by former Pixar artist Jeff Pratt. You will be embarking on vocational training and benefiting from any contacts in the industry your tutor may have.

So where should you look? Check out websites such as **3djobs.com**, **creativeheads.net**, **cgsociety.org**, **broadcastfreelancer.com**, **vfx-recruit.com** and **cgjobsearch.com**. Of these, CGSociety is one of the most popular and is used by nearly two-thirds of 3D artists hunting for a job. And don't be put off by the economic downturn; the recession affected some industries more than others – so while the gaming and film industries remain strong, high street and big name closures and the problems affecting construction has meant less work for advertising and arch viz companies. They may not be recruiting as heavily at the moment, but the signs show that things are picking up.

> “Many courses are designed and taught by tutors with decades of experience. Escape Studios, for example, has an animation course run by former Pixar artist Jeff Pratt”

David Crookes, Freelance Journalist

Learn the trade

The educational background you'll need

According to recent research by Escape Studios, 80 per cent of professionals in the CG industry went to university. They studied courses like computer graphics, computer animation, visual effects, film design, art and graphics, and design.

But even if you don't have a degree in any of these fields, there's still a good chance of successfully becoming a full-time 3D artist. There are many short courses you can take, and in some cases recruiters will even take on people with no formal qualifications at all.

Some companies say they will employ people on the strength of their showreel alone. And there are cases of people who've been offered a job almost by accident – which is what happened when Uruguan producer Fede Alvarez created a short film called *Ataque de Panico* that featured giant invading robots, and placed it on YouTube (**www.youtube.com/watch?v=-dadPWhEhVk**). Made for just £186 and lasting four minutes and 48 seconds, it led to a deluge of offers from Hollywood and a contract to make an £18.6m film. So get your work out there.

Training is certainly beneficial. That same survey by Escape found that 33 per cent of people in the industry believed undertaking a specialist CG course as a post-graduate was useful, and just as crucial was the need to produce a stonking showreel. Those who have been formally trained in 3D say they are given a lot of time to build up that knock-out showreel, which puts them at a distinct advantage.

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> “Working at a smaller post house first really gives you a chance to gain experience fast”
>
> **Gavin McKenzie,** Compositor

My world is the movies

Get to work on the latest blockbusters

One of the jobs most 3D artists dream of is working in the movies. Who wouldn't want to work on special effects such as those in *Avatar*? It's a heavily subscribed industry, so to get in you really do need to impress.

The movie industry employs graphic artists, usually on a freelance basis, to produce the many props you see on-screen. Your 3D skills may also come in useful as a storyboard artist, but most graduates wishing to get into 3D within the film industry will start work as a matchmover.

It is a great introduction into the processes involved with movie VFX, and you will work with packages such as Maya and Shake, or tracking programs from 3D Equalizer to Maya Live or Boujou. Hours can be long and unsociable and you will be expected to stay in this position for between one and two years.

If you are more technologically savvy and have knowledge of Python, C++ or shell scripting, you may be recruited straight away for the role of assistant technical director, which is a good position for entry level artists with no previous VFX experience. Companies like Double Negative hire runners, where it's a case of showing people what you can do when you build up contacts.

Gavin McKenzie, who works as a compositor and roto artist, started as a runner and worked his way up to lead technician. He recently worked at London-based Rushes, a relatively small post-production facility. “Working at a smaller post house first really gives you a chance to gain experience fast,” says Gavin. “The projects I worked on while at Rushes were a film test for Pathe doing some 2D to 3D Stereoscopic conversion, and a British feature film called *The Kid* doing the compositing.”

It is important for you to submit an outstanding showreel. Most people will have graduated from a degree based around visual effects and animation, although some have a fine arts background or enter the industry with degrees in physics or maths, having completed a short VFX top-up course. “Whether someone is applying for an entry level role or a senior position, we look for high-quality, catchy, interesting shots on their showreel that fully demonstrate ability,” says Alex Wuttke, head of 3D at Double Negative. “We receive around 60 applications per day and all of these get reviewed.” He says your showreel should be no longer than two minutes: “Always start the reel with your best work and never pad out a showreel by adding substandard shots just to make it longer. We have interviewed people with extremely short showreels before – if it's outstanding work, we will be intrigued and interested enough to want to find out more. You can ruin your reel by putting poor quality work at the end. We see this all the time.”

There's a lot of scope for career development in the movie industry. Many companies offer in-house courses that cover their tools and pipelines. Those who start in matchmove tend to move to junior technical director roles before progressing into lighting and generalist roles, or into specialised areas. Some artists find their way into supervisory roles, leading teams of artists, and some even end up as visual effects supervisors.

I got that job

Nick Illingworth

Age 19
Job Matchmove artist at Framestore

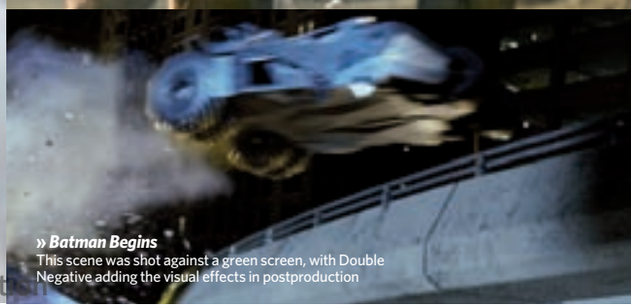
“I finished my first year studying BSc 3D computer science and realised, to get a job, I would need industry training. I completed the VFX and Maya core courses at Escape Studios, and within two weeks I was given a job interview at Framestore. I did not actually show Framestore a portfolio of my work – my tutor at Escape put my name forward.

I am a matchmove artist, which involves matching CG elements to live-action footage. I also perform numerous tasks such as object tracking – the process of tracking a 3D object that perfectly matches an object on the live-action footage – and body tracking (sometimes referred to as 3D rotoscoping) which is, for example, animating a 3D rig to perfectly match a character on the footage.”

Salary expectations

Matchmove artist: £19–20,000
Junior technical director: £20–25,000
Junior modeller: £22,000
Junior 3D artist: £20,000+
Texture artist: £22-25,000

» 10,000 BC
Double Negative produced this CG sabre toothed tiger in CG water for the movie *10,000 BC*



» Batman Begins
This scene was shot against a green screen, with Double Negative adding the visual effects in postproduction

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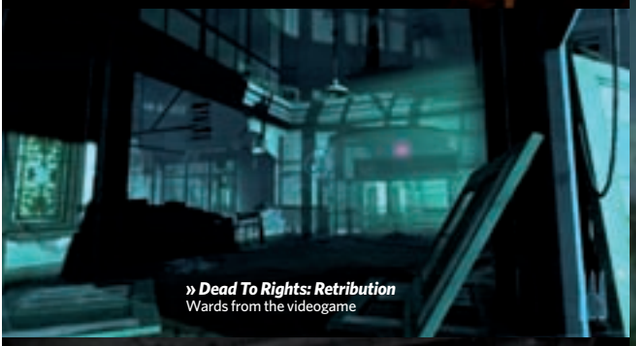
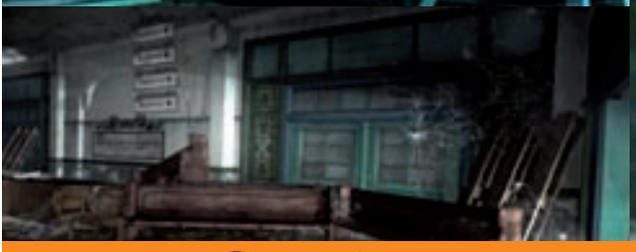
» ***Burning Man***
Artists will often be called on to draw up concept art, such as this one for *Karaoke Revolution*



» ***Dead To Rights: Retribution***
Wards from the videogame



> "My first project when joining the company was *Pac-Man World 3* as a junior artist. I had the pleasure of doing the chores like bug fixing and creating small props to be used around level design"
>
> **Shekeel Alli,** junior artist, Blitz Games

» ***Tak Jungle***
Shekeel Alli has produced graphics for *Tak* and *Guardians Of Gross*

Get into gaming

Work on the latest titles

There isn't, generally, a single path to getting a job in 3D art in the gaming industry. While many will have gone to university, many others are tinkering in their spare rooms and producing their own indie games. You don't necessarily need a degree either. "We do not insist on any formal qualifications," says Aaron Allport, studio art director at Blitz Games Studios. "The portfolio is the most important factor in getting an interview."

The day-to-day work involves the creation of 3D characters, objects and scenery. Typically, artists will use Maya, 3D Studio Max, Softimage XSI or LightWave, taking concept art and creating a model. Most gaming companies will also expect you to complete the texturing phase.

"In essence, junior artists must possess a solid grounding in traditional artistic skills and exhibit the ability to make good artistic judgements, coupled with a willingness to learn and develop as a game artist," says Aaron. "Specific skills are modelling, texturing, sculpting, lighting and surfacing, and whereas here we use our proprietary BlitzTech technology, artists will be expected to learn the specific toolchain at any company. In addition, there are the crucial skills of team work, communication and a thoroughly professional attitude."

Many of those working in games have a degree in art, fine art or an art-specific discipline. At first 3D artists will work on in-game environments, building props or blocking out game levels. Depending on where you're working, this could be in a range of styles and genres – from hyper-realistic to any number of cartoon styles. It's a great way to get more experience with the toolchain and build up your skills. It is worth your while getting a copy of *Modeling A Character In 3ds Max* by Paul Steed – an excellent guide to creating game content.

There are numerous entry-level jobs, including character artists, environment artists, technical artists, research and development artists, and visual effects artists. Most mid-to-large companies will offer training courses (many smaller ones will too) and there are opportunities to graduate to art manager or studio art director roles.

"Your showreel or portfolio is the most important element in getting an interview, so make it as easy as possible for us to see your best work," says Aaron. "Both web-based and paper-based portfolios are fine, but make sure your website is well designed, clean and easy to navigate – and only include your very best work. It's important to remember that competition is now very fierce for artist positions in the games industry, so the quality of your work has to be exceptional."

Sites such as **gamesindustry.biz**, **gamesrecruit.co.uk** and **workingames.co.uk** are good places to look for a job, as are the pages of our sister magazine **games™**. "At entry level, we'd advise a direct application rather than via agencies, so research companies and study their websites," says Aaron. "Although just getting your first job tends to be the overriding factor, try and look for a good fit in terms of styles and genres. Target your applications and don't get too disheartened if it takes a while to get an interview – and keep drawing, modelling and texturing while you wait."

I got that job
Shekeel Alli

Job Junior artist, Blitz Games

"I completed a BA Hons in Multimedia Design at De Montfort University and applied direct for a junior artist role. I sent Blitz Games a showreel and a CD-ROM showcasing screen captures and renders, as well as video footage of characters, environments and concept art.

My first project when joining the company was *Pac-Man World 3* as a junior artist. I had the pleasure of doing the chores like bug fixing and creating small props to be used around level design. I then moved onto Team Voodoo, where I would continue creating concept art for environments for our series of *Karaoke Revolution* games.

I'm currently a 3D modeller and texture artist on *Dead To Rights: Retribution*, creating standard environments and assets. I'm working alongside concept artists, animators and designers, and I go out of my role by creating concept art and environmental animations for props, also working across different teams simultaneously at times."

Salary expectations

Junior 3D artist: £15,500–20,000
Junior character artist: £13–16,000
Junior 3D modeller: £18–20,000
Junior environment artist: £16–19,000
Junior technical artist: £15,500–20,000

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» ***Pipe Dreams 3D***
Companies such as Pipe Dreams 3D need very skilled artists in order to best promote clients' products

Architectural visualisation

Rendering buildings for a living

It may not seem as sexy as working in movies, television, gaming or design, but architectural visualisation is no less creative. You'll produce lifelike 3D computer-art representations of proposed new buildings, using your skills to ensure they're not only desirable in themselves but that the environment around them looks equally inviting. The idea is to give clients a chance to see what their building will look like before it is complete, and so it not only has to be photorealistic but technically accurate too.

A very popular package for architectural visualisation is 3ds Max, so knowledge of it will be advantageous if you're considering a career in this area. You'll also need to build up a strong portfolio because vacancies are oversubscribed.

"Architectural experience would also be useful," says Anshul Kapoor, director at arch viz specialists Image Foundry Studios in Manchester. "Having said that, it's more important for people to be creative, because we can easily teach the technicalities of building design."

Mr Kapoor says a good showreel is more important than qualifications, although most people entering this sector are educated to degree level or have been on an intensive 3D course. "We find a course gives people structure," he adds. "The people who go on those courses are also very focused about their 3D work and it's not unusual for companies such as ourselves to go straight to universities and colleges when looking for new staff."

Initially, new staff work primarily in modelling and texturing, so a strong portfolio of work in those areas will help. Candidates are expected to show aptitude in camera work, and arch viz bosses will expect to see evidence that you're good with lighting. You'll be asked to model interiors and exteriors, render, produce floor plans and perhaps create full architectural presentations.

"As people move up the ladder they'll be expected to show all-round experience," says Mr Kapoor. "Post-production is a vital area and that's where storyboard and camera skills are useful."

Staff in architectural design operate in teams, so strong working abilities with others are needed and you'll have to develop a skill for reading architectural plans. Deadlines are often tight, too.

The ways into architectural design vary. Some advertise on sites such as **aardvarkswift.co.uk**, **cgarchitect.com**, **architecture.co.uk** or **escapestudios.co.uk**. Many candidates send a speculative CV and work portfolio. This can lead to a phone call, an interview and, hopefully, a job.

I got that job

Alvaro Martinez Sanchez

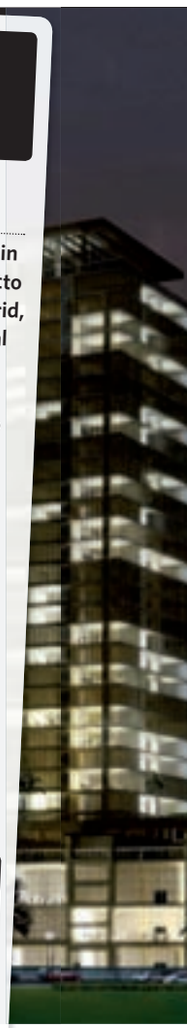
Job Junior 3D artist at CrystalCG

"I did a three-year degree in virtual design at the Istitutto Europeo di Design in Madrid, before embarking on a Real Flow course at Next Limit's headquarters and two courses in Maya Core and VFX.

I then worked on my showreel and tried to make as much noise as possible, posting on forums, meeting people from the industry and sending as many DVDs as I could afford. I joined LinkedIn, and a couple of days later Ximo Peris, our creative director, contacted me. My portfolio had a bit of everything: product visualisation, camera and object tracking, CG integration... When you are a student, most of the time you don't know what's going to be your main role once you start working, so I tried to develop whole projects from the concept to the final comp. I also tried not to do the most typical 3D projects, like robots or spaceships."

Salary expectations

Modeller: around £15,000
Texturer: around £15,000
Junior artist: around £15,000



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Advertising and design

Campaigns, visualisation and selling the product

Remember the Citroën C4 advert with the dancing car-cum-robot? Of course you do – because when an ad is as eye-catching as that, you sit up and take notice. The fact is that adverts are viewed, and whether they're on TV, the web or in print, a good 3D image lifts them immensely.

In some companies you'll be asked to draw upon a host of skills. Pipe Dreams 3D, for example, are specialists in pre-visualisation 3D animatics for the advertising industry, and their 3D artists get to turn their hand to every part of the animatic process, from modelling, texturing, lighting and animating to directing, cinematography, editing and compositing.

Companies like this therefore look for CVs that show broad experience, but many take on talented specialists. "One of the things we look for is raw artistic talent. Can they draw and paint, for example?" says Adam Attew, founder and director of Pipe Dreams 3D. "We even like to see old-school paintings and drawings, which give us an idea of what kind of talent we're dealing with. An instinctive creative ability and artistic eye is vital. It's easier to teach technical skills than artistic ones."

Junior 3D artist roles are usually offered by most companies. Raw recruits start on simple objects before moving on to characters and more complex models. When working on TV commercials, recruits also have to learn to read scripts and work with the creative team. Your job would be to translate words and concepts into moving images.

Search industry forums such as **www.cgsociety.org** and **ani-jobs.com**, but also research companies, and contact ones that interest you. Companies are happy to receive showreels on spec. Think hard about that showreel. The key is to grab attention right away – with commercials you have, at most, 30 seconds to sell a product. "Long showreels won't work," says Adam. "Make it short and punchy, showing you understand what we do and how you could fit. If you have only a few models to show, don't spend a minute rotating a camera around them. It's the quality of models, not quantity that's important. Wake the viewer up – they've probably trawled through many long reels – and keep them interested, showing the diversity of your skills."

The future for 3D in advertising and design is looking rosy. "3D is really coming to the fore, used in more mediums and outlets," says Adam. "You only have to look at the recent movie releases to see its impact. The big debate now is the role 3D will play in TV, so there's an exciting future for the industry and ever-growing possibilities for 3D artists." Some who start at the bottom can progress to lead artist, and there is scope for ambitious and talented artists with jobs as creative or technical director or head of studio.

I got that job

Duarte Victorino

Job Tracker

"My background is industrial design – CG came later, but while I was completing my Industrial Design degree I was introduced to 3D via a few short courses. I later moved from Lisbon to London to do a Visual Effects course. Since then, I've developed generalist skills from tracking, modelling and texturing to lighting, rendering and some compositing. I went into commercials when the opportunity arose. A few years back you could be more demanding, but nowadays when you are starting you don't look too much at the industry, you just want the job. You need a foot in the door – start being more demanding later."

Salary expectations

Junior artist: £15–18,000
Modeller: £15,000+
Animator: £15,000+
Character specialist: £15,500 to £18,000
Environment specialist: £15,000+

» Architectural visualisation ranges from skyscraper residential blocks...

» ...to quaint cottages

"One of the first things we look for is raw artistic talent. Can they draw and paint for example?"

Adam Attew, Director, Pipe Dreams 3D

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Lynette Clee talks to Till Nowak, a one-man army taking his studio, frameboX, on an adventure ride in the CG industry

The art of independence

Company frameboX
Founded 1999
Company website www.framebox.com
Country Germany
Expertise Concept art, visual effects, product design, illustration, light installation
Software used 3ds Max, V-Ray, After Effects, Photoshop
Client list ZDF German Television, Aardman Animations, HR Giger, Schott Glass, Mercedes-Benz

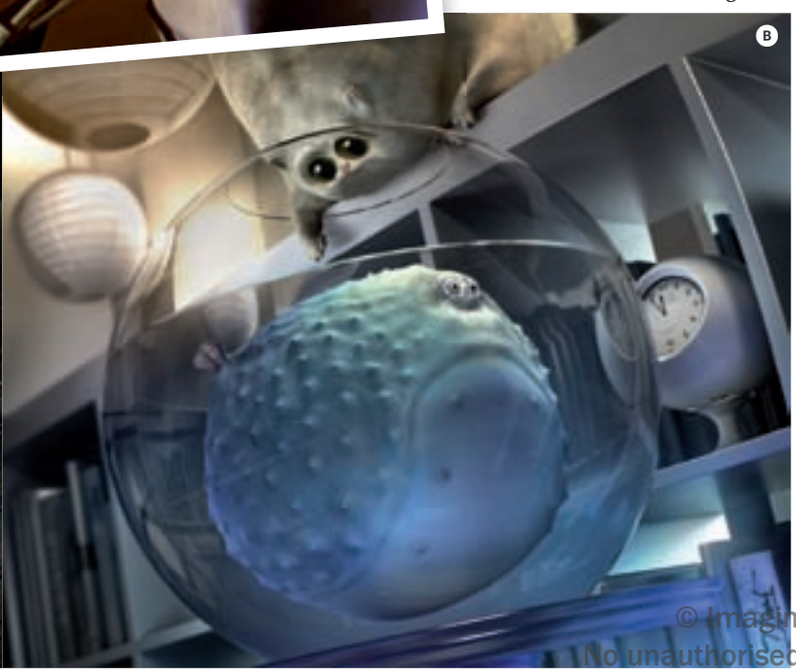
> "Nothing captures me more than movies, and so I see the key to my happiness in making them, to become part of what I love most. I don't want to separate my work from my private interests"

Till Nowak is a digital artist, designer and filmmaker

Born in Germany, a young Till Nowak grew up in a family of artists surrounded by all kinds of inspirational art, going on to discover 3D software at the impressionable age of just 16. From there it was almost no time at all before he set up his own company, frameboX, which was launched when he was 19 before even graduating from school.

Never one for being tied down and always striving for complete independence, he stays motivated by remaining an efficient, one-man unit, with more project offers than he can possibly accept. This makes negotiating easy for him and puts him in the enviable position of being able to choose exactly what work he takes on week-by-week, leaving the less exciting projects for others in the industry. Having transformed as both artist and studio owner over the last ten years, and equipping his studio step-by-step as projects and budgets have grown in size, he's taking frameboX on an international adventure ride, exploring all fields of the CG industry. Of course, this could very well change in the future as his projects continue to get bigger and require more commitment from him; however, in the here and now he is more interested in pushing his creativity than maximising profit, which keeps his passion for CG very much alive and kicking!

3D Artist: *Can you tell us about your educational background and how it has helped your career?*
Till Nowak: After founding frameboX I studied media design at the University of Applied Sciences in Mainz. I didn't really need to go there to learn the software and techniques, but from an artistic input and feedback point of view it was essential. Through studying I learned about the many artistic possibilities with electronic media that I didn't know about before. Without it, I would probably still be designing websites and brochures, as I was doing before. After graduating I shifted towards cinema,



Ⓑ

Ⓐ *Blowout at Exit 16A* "This image is as much 2D as it is 3D, based on a render mixed with photos. Created in 2008 for the book *Carnivora* by Leslie Barany."

Ⓑ *Can't smile without you* "This image is an example of my recent interest in spheres." The image features spherical objects throughout the scene

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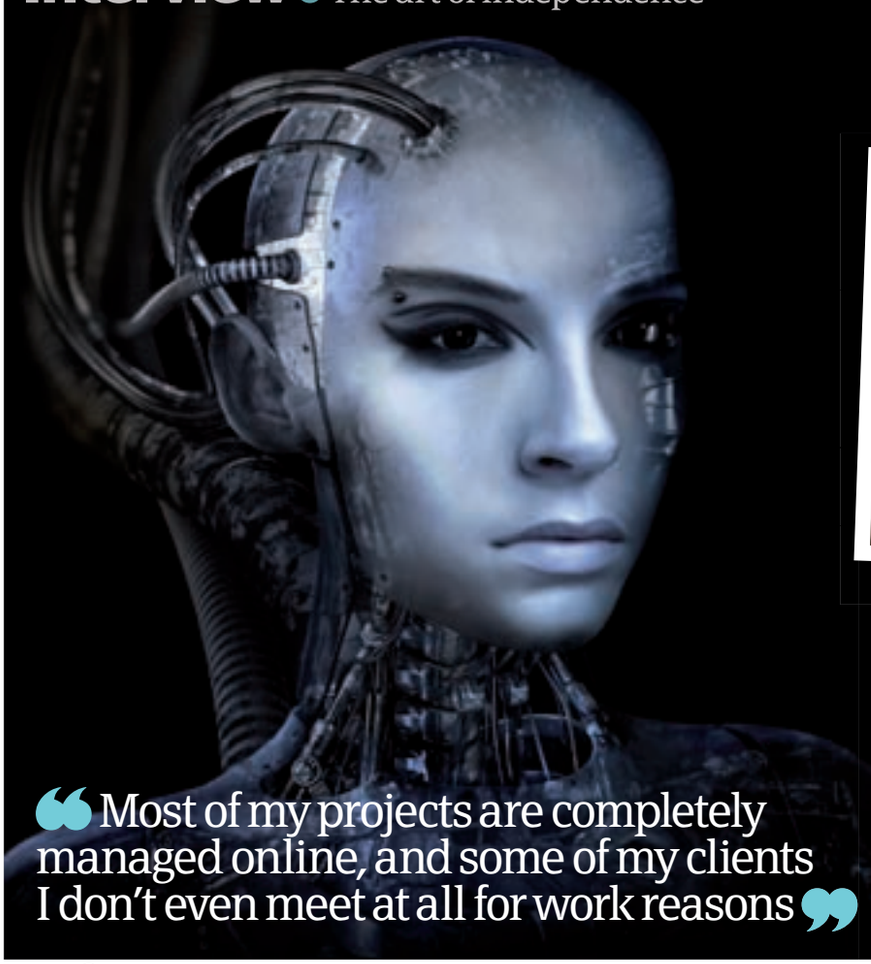

> “Most of my projects are completely managed online, and some of my clients I don’t even meet at all for work reasons”

experimental and fine art – I discovered that there was a much more exciting side to media than the business one.

3DA: *What is it about animation and filmmaking that captivates you and caused your shift in direction?*
TN: As a consumer of all kinds of art, nothing captures me more than movies, and so I see the key to my happiness in making them, to become part of what I love most. I don’t want to separate my work from my private interests. In order to become happy, my passion, motivation and skills have to come together in my job.

3DA: *What services does frameboX offer and what expertise do you need to have in order to keep the studio afloat?*
TN: I offer design illustrations and concept art, mainly for environments, products and vehicles, 3D visualization for documentaries, visual effects, music videos and light installations.

My studio basically consists of ten computers with lots of software licences, a big screen, a telephone, and all sorts of things that have come together over the years. I operate everything, but I also share my office space with a couple of good friends who work independently as designers.

When I founded frameboX in 1999 together with a good friend of mine, Tobias Hofer, who left the company in 2001, we offered the typical kind of small graphics freelance work like web and print design – not much 3D. The important difference between frameboX and regular freelancers then was that right from the beginning we only ever worked from our studio with our own equipment, presenting ourselves as a company from the start. This made it possible for us to work on several projects at once, using the gaps in between – usually while waiting for feedback – to manage other work. By investing our hard-earned money back into equipment, the company grew by itself.

Over the last few years I’ve changed my time management from working on 50 to 80 small jobs to working on only 2 or 3 bigger projects per year. This has reduced my phone calls from 30 to 1 per day, which makes me much happier as I can dedicate more time to things.

3DA: *Can you name some of your main clients and tell us what projects you’re currently working on?*
TN: Over the last months I’ve created a lot of concept art and design for Aardman Animations. In October I performed a large-scale light installation on a castle for the Monumedia Festival in Naples, and earlier this year I created a music video for the German pop group Ben*Jammin, which was presented at SIGGRAPH 2009 in New Orleans. Since 2007 I’ve been working with HR Giger on concept animations that were exhibited in a recent Giger exhibition in Germany and Finland, and I also created a record cover for the recent album of the German band Tokio Hotel.

Right now I’m working at Aardman Animations in Bristol, England as an environment designer on a new full CG feature film, which is actually working outside my own studio for the first time in ten years.

3DA: *How does your location in Germany benefit your studio and make you a great choice for clients looking to hire you?*
TN: I didn’t choose Germany because of its business opportunities; I was just born there. But it’s a good country to live and work in because our infrastructure works well and everything is safe, in a way. But honestly, with the way I work it probably doesn’t matter much where I am – as long as I have my equipment and a fast internet connection!

Most of my projects are completely managed online, and some of my clients I don’t even meet at all for work reasons. In this weird electronic world, locations and distances are not that important any more, which of course makes it even more necessary to step away from the screens

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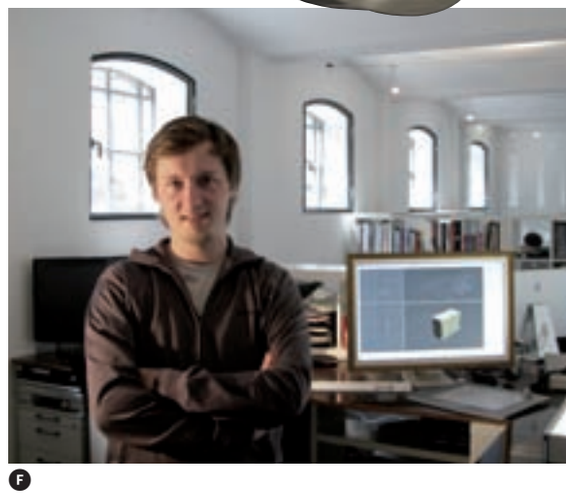
Key Project 1

Delivery

This nine-minute surreal short film opened the doors to filmmaking for me. It was presented at SIGGRAPH 2006 and has won more than 35 awards all over the world, including the AFI FEST Hollywood and the Animation Festival in Annecy.

E



F

and office at times to stay in touch with the real world outside.

3DA: *What hardware and software do you find yourself using most often now, and why are they essential to your production pipeline?*

TN: The base for everything I do is 3ds Max: I use it for sketching out and pitching ideas from the early beginnings of a project through to the detailed final modelling and rendering. I will also often use it to plan light installations on real buildings – as well as to plan where to put furniture in my new flat when I move! Max has become as essential and universal for me as a piece of paper and a pencil would be. And the more essential it is, the more difficult it becomes to try and learn other packages, such as Maya or XSI for example. Max is just the software I started with early on; I've learned to control it.

I also use V-Ray, After Effects, Photoshop and SynthEyes, as well as some other small tools and plug-ins here and there.

3DA: *Could you give us an insight into your typical production pipeline for a short CGI film?*

TN: My workflow is a bit unusual because I'm very often improvising and not worrying too much about how things are 'usually done'.

I start by designing directly in 3D, without sketches on paper, because I can express my ideas better and faster this way than I can with a pencil. This is just because I'm not trained to draw, although I do admire those who can! I then build my scenes as a universally working set for all camera angles, rather than breaking it up into different scene files for close, wide or other shots, as film productions usually do. This means I animate a whole scene and then search for the camera angles instead of other way around – I am more 'live-action' oriented in my way of thinking. I then render image sequences, usually with an extra z-depth pass and several matte passes to mask objects, and polish it altogether in After Effects. I often render much more material than I will finally need, which gives me freedom in editing and leaves the whole rhythm of the piece open until the end. Big animation productions would have to lock the editing down using an animatic beforehand, since that's the only way to manage the capacities of a big team.

3DA: *How about for a still image, what is your workflow then?*

TN: For a still image I usually start by modelling the key idea or key object within the first few hours, and then build the scene around it during the following days. As with animation, I jump over several production steps and include materials and lighting in my scene from the very beginning. I just don't like to model a whole scene first in grey shading, do the materials next and the lighting last; I want to see it all at once. There is one step at the end that is the final reward, making it all worthwhile: the 2D post-polishing in Photoshop. Whatever render might come out after two weeks of 3D fine-tuning will be boosted to double the quality by just two or three hours in Photoshop when working on top of it; defining lighting accents, enhancing the mood, colour, depth, atmosphere, lens distortion and so on.

3DA: *You can't tell us too much about the current project you're involved in at Aardman unfortunately, but how about the*

C "*Humanoid* is an album cover created for Tokio Hotel." With the band being an international number one hit seller, this image has been great exposure for Nowak's 3D still work.

D "This music video, *Spring*, was created for the German pop group, Ben*Jammin using 3ds Max native particle systems to create water and debris during the jump scenes."

E "In some of my images you can see my passion for bold, spherical shapes, for example in this concept car design. I love to play with the simple yet perfect curves of a circle."

F "Me and some good friends share our office space while having completely independent businesses ... This kind of working environment is the best and most relaxed I have seen so far."

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Key Project 2

Salad – CG Image

Salad was created with 3ds Max and Mental Ray, printed on canvas, brushed with a special, thick varnish and presented in a heavy wooden frame at SIGGRAPH 2007 in Boston. It's a tribute to HR Giger and Giuseppe Arcimboldo, who created portraits of vegetables and other objects in the 16th Century. HR Giger is the Swiss artist responsible for the original *Alien* design, and Giger himself invited me to visit and work with him after he saw this image. We became friends and have worked together since on some animation concepts.

Another offspring of this friendship has been the image, *Blowout at Exit 16A*, which was created for the book project *Carnivora*, curated by Leslie Barany, who is Giger's agent.

> "I've been working with HR Giger on concept animations that were exhibited in a recent Giger exhibition in Germany and Finland"

VFX and direction you did on the music video Spring*?*

TN: *Spring* is a music video filmed with a shaky, documentary-like handheld camera, extended with match moving visual effects. The visual effects gain their impact from the rough and seemingly unplanned footage – and the shots were indeed not planned! The rough story and the locations were defined, but on purpose no preparations or exact definitions existed for the scenes; I just had to be careful to keep the actors out of the line of sight between the camera and any potential VFX object. Later I selected the most promising scenes and spent two months building the 14 VFX shots. I used camera mapping and match moving to transform existing objects from the actual locations into 3D objects and throw them through space.

3DA: *What is the most difficult part of a project like that, and how do you go about solving problems when they arise?*

TN: The challenges inherent in any project are probably communication and different creative opinions. In this case the record label and the band loved the video, but wanted to see more direct performance in it. The original version of the video had a pure, realistic documentary style without any performance, so all the scenes showing the band singing were shot three months later during an extra session and then included later. Generally, when technical problems occur, I enjoy it much like a sport to find workarounds and solve problems with unofficial methods. I don't usually look for plug-ins or extra tools for problem solving, so long as I can see an opportunity to resolve it with any kind of trick or cheat!

3DA: *As well as your studio work you also produce independent artwork, which clearly contains a touch of your humour. What inspires you to make these?*

TN: I start with such artwork when I have an original idea that I haven't seen anywhere else, and I'm usually so curious to see what it would look like that I create it for myself. Because this requires some free time, they don't happen too often; I do maybe one such still image per year.

Inspiration comes from so many different sources that it's impossible to list them, and often I don't even remember what originally triggered an idea. They tend to come from a combination of thoughts that I've had in mind for years, sometimes since a child, that suddenly come back to me as an idea for a CG still.

3DA: *What has been your most accomplished work to date?*

TN: In 2005 I created my short film, *Delivery*, within six months, created as my graduation work after studying.

I didn't expect much and entered it to just three small film festivals. It won awards at all three of them, so I sent it to 50 more… and then to another 50 after that. It brought me three years of travelling from one festival to another receiving more than 35 awards, including one in Hollywood at the AFI Film Festival 2006, one at the Annecy Festival, as well as a nomination at the European Film Awards – not to mention endless new contacts and job offers. This little project really changed my life. In total, the film has been screened at more than 200 film festivals.

3DA: *What are your plans right now and what can we expect to see from frameboX in the future?*

TN: My big plan is to make a new short film, which I have been struggling with for a few years because I've allowed myself to be interrupted by attractive project offers. I also recently received an offer to create a permanent light installation on a building that will be physical, rather than digital. So I'll see what comes, and hope to explore more fields of visual creativity.

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G "*The Shaved Bumblebee* – no words needed!"

H

I

J

K
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H *Souvenirs* is an experimental video produced in 2007 by Till Nowak and his brother Nik Nowak, with the help of two friends, Ivan RoblesMendoza and Tobias Hofer.

I "*Morning* is a training piece from 2003, the year I spent [working on] photorealism. The bubbles on the water are a simple bump map and a white bubble texture on a raytracing material."

J "*Dishes* is an ironic portrait of our society flooded with electronic media, which I am a part of myself and honestly enjoy it probably more than I criticise it."

K In March 2008, Till Nowak created various aircraft interior designs for SCHOTT AG to be used as a demo environment for SCHOTT's glass and lighting solutions.

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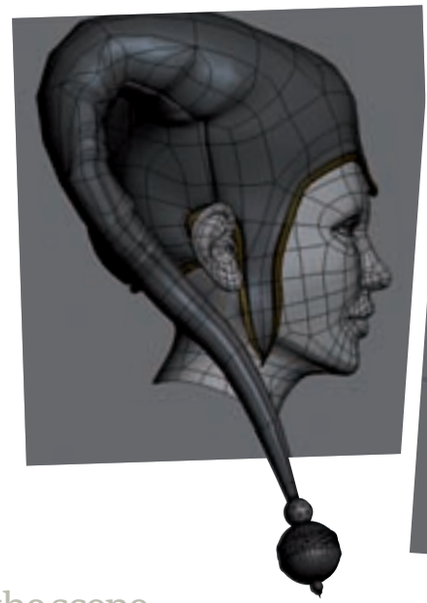
Step by step: Create a fantasy illustration

Princess of Madness 2009

> I like traditional hand-painted portrait images so I tried to create something similar to them on a rainy day

Zoltan Miklosi explains how he created a 3D image in the style of a traditional hand-painted illustration

In this tutorial I will try to explain how I created the *Princess of Madness* image. It took about a week to create from scratch. I like traditional hand-painted portrait images so I tried to create something similar to them on a rainy day.
I started to find a nice image as reference for getting ideas for the composition and pose. As I remember, the most difficult part was to set the bone weights properly – I don't like this part in 3D. Fortunately there are some easy and logical ways to rig a model in Blender.

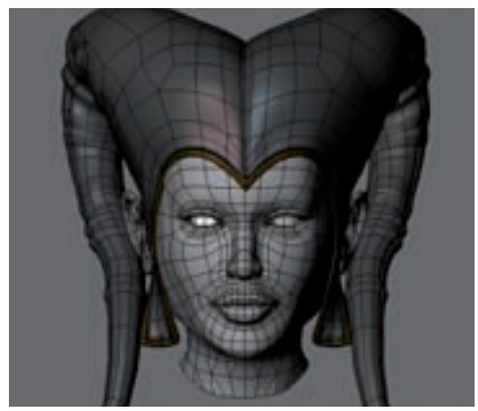


Concepts

Inspiration behind the scene

01 **The basic idea** comes from a combination of medieval characters – court jesters, queens and princesses – and a more modern emo/goth sensibility. I'm attracted to strange, sexy female characters, and now I can create one. I tried to reflect her daydreamer character in the pose and expression.

02 **The colours weren't** in my mind originally. I didn't plan her clothes to be mainly green and yellow – that just seemed to happen! When I create an image I try various possibilities for getting the right result. I like warm, highly saturated colours. Warm colours fill an image with life.



03 **The most exciting** part of my ideas was the jester-style cap. I wanted to create it really well because it expresses how mad she is – who else would wear such a cap? And I tried to enhance this feel – her madness – with the nose laces. She is a slave, a slave of her crazy dreams... just like anybody else.

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Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Zoltan Miklosi

3DArtistonline
Username: Zooly76

Personal portfolio site
www.visualworks.atw.hu

Country Hungary

Hardware used Intel Pentium 3GHz, 2GB RAM

Expertise Zoltan specialises in character modelling

Character modelling, Texturing

Software used in this piece

Blender

Photoshop CS2

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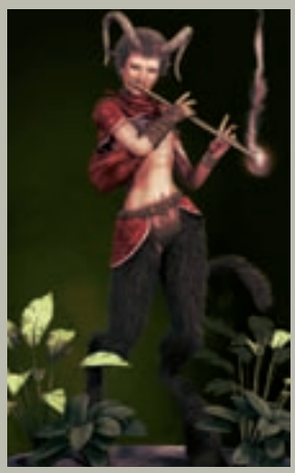
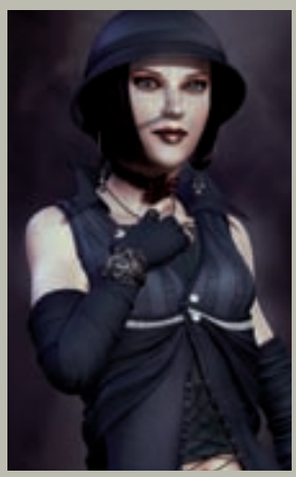
Artist Showcase

Zoltan Miklosi

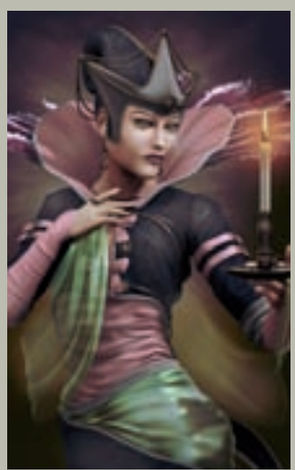
I was born in Budapest in 1976. After high school I studied foreign and domestic commerce in college. 3D graphics was just a hobby then. My first real encounter with 3D was in 2000. 3ds Max was the first software I tried – I found it too difficult and changed to Blender 3D.



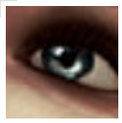
A Faun **Blender, Photoshop CS2 (2008)**
Folklore is full of strange creatures. I tried to create one of them as practice. I think it's very funny to find a creature with strange legs and a human top-half. I tested my skills creating fur and curly hair



Girl With Hat **Blender, Photoshop CS2 (2009)**
This image was my first real success. I put all my knowledge into it. I wanted to make a strange, sensible, secret girl portrait in a traditional art style. One of the best images I've created – I really love it. It was published in some magazines

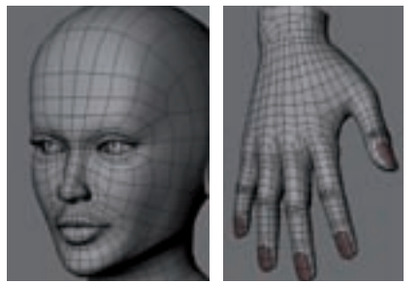


Girl With Candle **Blender, Photoshop CS2 (2009)**
With this image I tried to repeat the success I had with the image *Girl With Hat*. I didn't succeed, but I don't care. I've included it in my portfolio because of old, personal memories. I started it in 2007 then put it on the shelf. in 2009 I finished it



Modelling the figure

Creating the princess



04 **Before I started** the modelling, I only had her face in my mind. In the first step I studied old painterly portraits to get ideas for the pose and expression. My preconception was to create a female jester, but during the modelling phase I changed my mind – and so the original concept and the result are totally different. I have tried to enhance the fine art feel with the postwork process. The postproduction work has been done in Photoshop – lighting adjustments, colour correction and fixing the render mistakes.

05 **I started the** modelling phase with the head. I used two reference pics – the front and side of a female head. I made the ears and eyeballs separately and joined them to the head later. I always model half the head and body, then mirror and attach them. The torso was created separately. I then divided the body into parts for the textures. I set the seam lines for the limbs, torso, head, lips, eyes, ears and nails. I did the eyeballs with two different sized spheres with common reference points. The large sphere is the cornea; the other is the vitreous body.

06 **After I finished** the whole body I dressed it up. I started with the cap. Because it is symmetrical I had to create half of the cap and mirror it, and attach the two half caps together. The edge of the cap was created separately because of the easier texturing. After I accepted the main shape of the cap I set the seam lines for creating the texture map. Don't forget: well created, detailed clothing is half the success of a character portrait!

07 **I continued with** the main parts of the dress. I think the most interesting part of this phase is the wrinkles. Most 3D artists don't like triangle surfaces in their models, but I think it makes the cloth more realistic. I modelled all the wrinkles. First I created the main shape of the cloth without wrinkles and I set the seam lines on the cloth parts for the textures. Then I created the wrinkles with the Knife option so the textures could follow the bumps of the cloth.

08 **The next step** was the rigging. For this I used vertex point weight and weight paint options together, so I could rig the whole body and clothes very easily. The most difficult part of this phase is to set the bones effect zone so that the cloth parts and the body mesh don't cross each other – the cloth covered body parts should not be seen through the cloth.

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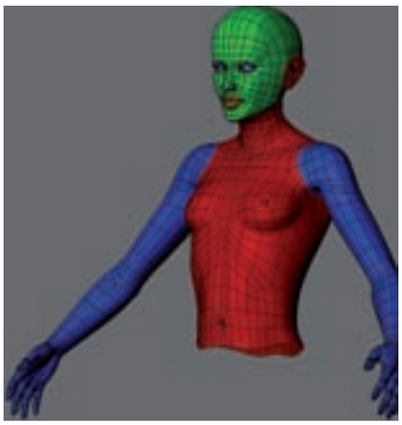
Adding fine detail

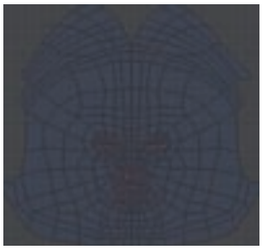
Refining the model and adding textures

1 hour render time
Resolution: 1,356 x 1,808

09 The first step was to unwrap the whole body. As I mentioned earlier, I divided the whole body with seam lines into different parts such as the head, torso, limbs, etc. I used different materials with similar settings for different body parts on the body mesh – this is called multiple materials on one object – so I could use large, detailed textures instead of only one huge texture. It is more work, but the skin is better in close-up views.

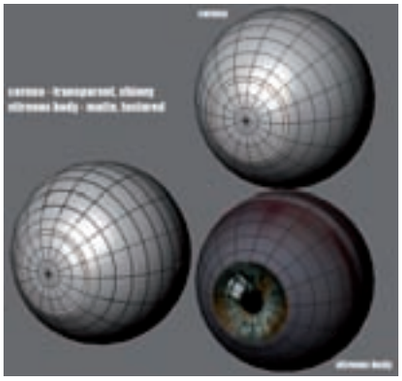


10 Making a nice skin shader is not an easy task. In this case I used three different textures per body part, such as a colour map (it gives the main colour of the skin), bump map and specular map. I added a bit gradient map (colour ramp in Blender – dark red/pink to light red/pink) to the shader. I set its Input to Result and its Method to Overlay. Besides that, I turned on the SSS option and adjusted its Scale to 0.0020, the Scattering colour to light pink, Texture Scattering factor to 0.150 and Blend factor for SSS colours to 0. I got the best results with these values.



Lighting the image

Lights are very important to make details visible and add to the ambience. I've used four spotlights, two light yellow and two blue. Only one of the light yellow lamps casts a shadow, and it has the most energy. I set the edges of the spotlights to Very Soft, just like the edge of the cast shadow. I also turned on Ambient Occlusion. After I set the lights I moved on to the camera setting.
I adjusted the camera far from the character, and zoomed on that so I got a flat render. Because the background was hand-painted in Photoshop, I turned on the Alpha Channel/Mask Creating option when I rendered the image. I had hand-painted the background image, and set it behind the character. My last step in the postproduction phase was to add homogenised lighting. I used Gradient Ramp, giving atmosphere.
I chose to work with warm colours, as can be seen in the final image.



11 After I accepted the body materials I continued with the eyeballs. I set the cornea to Transparent and Shiny. The vitreous body is divided with seam lines into eyeball white and iris. I adjusted the material of the vitreous body to Matte.

12 I continued the texture process with the cloth parts. Basically I used a tileable colour map, bump map and fresnel effect map for the fabric of the cloth parts and the cap. As I mentioned earlier, before I created the wrinkles I set the seam lines and unwrapped the meshes properly. For the materials I used Lambert as a diffuse shader, CookTor as a specular shader. My last step was to add a bit fresnel effect to the fabric. This gave a shine to the clothes.

13 For the bronze/metal parts I used fake HDRI reflection maps to reduce the render time. Besides that I applied a negative fresnel effect – I didn't want the metal to be too shiny and reflective. I set the Specularity to High and Hard.

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Step by step: Create a futuristic bar scene

Space Drink 2009

"This image was originally created for the competition called Uplift Universe, organised by CGSociety.org. I wanted to make a cheerful and humorous picture with humans and aliens"

Michal Suchánek specialises in character modelling

Nobody can doubt my inspiration for this picture. When I was creating the first concept I was thinking about old pin-up pictures and the light humour of retro-futurism. I'd had enough of classic tough women in rough poses; I wanted to do something more light and, more importantly, something funny. I started work on this picture because of an ongoing competition on CGSociety website. About a year later I did a makeover for this image. I made it modern and the dress of the waitress more detailed, and I added some new details like poker chips. From the beginning I tried to figure out an overall colour for the picture and a light composition. Sometimes it was not easy. When I was creating the image I was working primarily with 3ds Max and ZBrush, and the final scene was rendered in V-Ray. An important part of my work was also Photoshop. I adjusted the colour shades, cleared small imperfections and, for a greater sense of authenticity, I added the effect of chromatic aberration in some parts of the image.

Concepts

Inspiration behind the scene

01 **I wanted to evoke** the atmosphere of a familiar environment despite the fact that the image's story takes place in space. There are no high-tech machines, but I placed some classic cigarettes and traditional paper playing cards. I like the fun idea of smoking aliens playing poker.

02 **An inspiration for** the waitress in *Space Drink* were the images of pin-up girls from the Fifties. I like their funny atmosphere. One of the best illustrators for me is Gil Elvgreen. It was important to me that the girl should create a pin-up feeling, despite the fact that she is not a typical pin-up girl.

03 **I wanted to make** aliens on the scene with their own characters. Most of my time spent on the piece was to create an appearance of the three small aliens. I tried to make them funny; each of them has its own part in the picture. No more slimy, scary monsters that the entire internet is full of.

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Software used in this piece

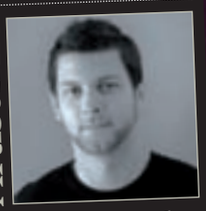
3ds Max · V-Ray · ZBrush · Photoshop

Modelling, Styling, Lighting

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info



Michal Suchánek

Personal portfolio site www.michalsuchanek.cz

Country Czech Republic

Hardware used Intel Pentium 4 CPU 3.4GHz, 2GB RAM

Expertise Michal specialises in character modelling

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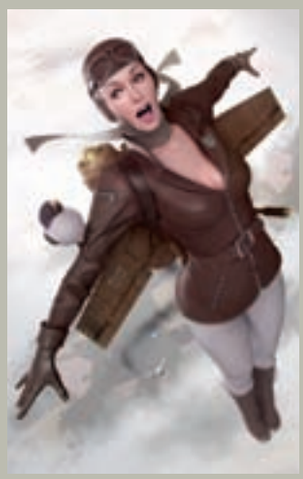
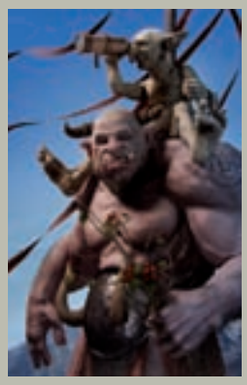
Artist showcase

Michal Suchánek

I started working with 3D when I was about 17 years old. I liked the whole technique, which was something completely new for me. Back then 3D art was not so well known in the Czech Republic. What I know now I got from books, tutorials, the internet and many, many hours of hard work.



Rocket Girl **3ds Max 2009, ZBrush 3.5, Photoshop CS2 (2009)**
After I finished *Space Drink* I wanted to make another picture with a pin-up girl theme. My inspiration for this picture was a comic Rocketeer and the classic style and humour of pin-up girls. There is not as much stylisation as you can see on the *Space Drink* waitress, but I think there is a humorous retro feeling



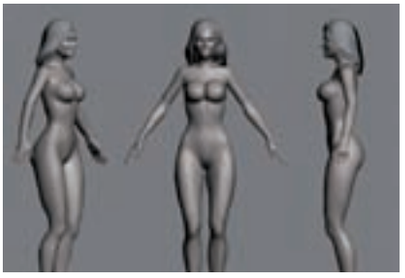
Mountain Patrol **3ds Max 2009, ZBrush 3.5, Photoshop CS2 (2009)**
The story behind *Mountain Patrol* is: "The two longtime companions patrol the border of Windy Mountains. They are looking out for their enemy, but nobody has shown up for a very long time." The truth is that I was little bit tired of making girls. I wanted to do something different, but I still didn't want to make some dull depressive fantasy picture. I tried to make it realistic and funny.

Closer **3ds Max 2009, ZBrush 2, V-Ray, Photoshop 7 (2006)**
An older image where I first tested the ZBrush. A lot of people tell me the main character looks like Angelina Jolie. Well, they are right, but it was probably more of a coincidence than deliberate.

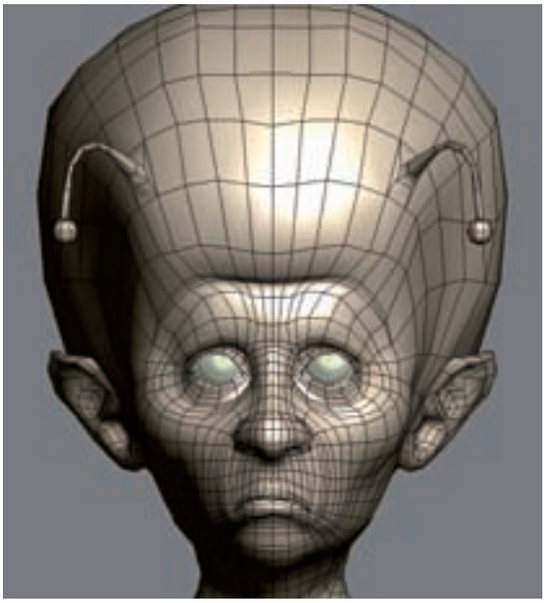
Modelling the figures

Creating the aliens and girl

04 **First of all** I started modelling the girl. I used an old head model for her face, that I modified according to the needs of the new image. This old base mesh was creating with the Box Modelling method. For making the best expression in the face I used reference photos from the internet.

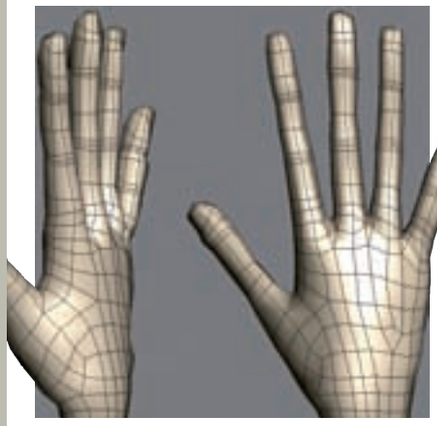


05 **The girl's body** is modelled in standard "Da Vinci pose". I prefer to pose models inside of ZBrush after years of modelling and rigging in Max. I think this is a faster way than rigging the whole mesh. I unwrapped the UVs of models (head and body) in Max and then I imported them to ZBrush where they were ready for creating normal maps.



8 hours **render time** Resolution: 2,786 x 3,744

06 **Let's see our first** alien called Bob. I started preparing a low polygon head and body. This alien was the funniest for me, because I love his expression.



07 **I modelled only** Bob's hands and upper body; the rest of the body is not visible. The posed low poly mesh from ZBrush was exported back to 3ds Max.

08 **The other two aliens** were created through the same method as Bob. Drunken Lou and Pink Greedo also have only the upper half of the body. I unwrapped the UVs in Max and then I posed models in ZBrush. After that I modelled props, such as cards and cigarettes.

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Adding fine details

Refining the models and setting the light

09 **In this part** I modelled basic meshes representing the background of the image. I made some stuff like bottles and glasses, and then I started experimenting with locations for the props, light direction and colours. I also tested different sizes of the characters' meshes. After I decided on a final composition and a setup, I started work on textures.

10 **Time for adding some details!** Every character has three textures. I used the ZBrush's Zmapper tool for normal maps. Diffuse and specular maps was hand-painted in Photoshop. Their resolution is about 4,000 pixels. The hair of the girl is also textured planes. This solution was easier for me than using the Hair and Fur modifier.

11 **At the beginning** of sculpting it is important to focus only on the shape. Details can be added later. An accurate silhouette and natural shapes are important for a natural look of characters. A stylisation, expressions of all characters and their colours are important for the overall feeling of the picture.

12 **Skin imperfections, wrinkles** and skin pores are aspects of realistic and believable characters. Originally I wanted the pink alien Greedo to just have one eye, but during the process of making the picture I started to add other eyes. Now he has five! I like the idea that every eye looks elsewhere.

13 **After refining the** models I exported all the normal and displacement maps from ZBrush. I used V-Ray SSS shader with a combination of 3ds Max's standard Oren-Nayar-Blinn material for the skin of the aliens and the girl. The view in space and the smoke in the background were both matte painted in Photoshop.

Retro colours and lighting

Space Drink was rendered in V-Ray, and I used a V-Ray Light with V-Ray shadows for the main light source. There are two coloured additional V-Ray lights with less intensity and one strong back light. I like to use coloured boards to help light the scene by the appropriate colour. There are two boards in this scene: the blue one is on the left-hand side and the yellow one is placed on the ground. The whole scene was then rendered into two layers – the first one is the foreground which holds the aliens and the girl, and the second layer is simply the background of the interior. A composition of the layers and a final retouching – which included a colour saturation, a bloom effect and increasing highlights – was all done in Photoshop.

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I made this...

Incredible 3D artists take us behind their artwork

Artist info

Nikita Buyanov

3DArtistonline

Username: trainfender

Personal portfolio site http://trainfender.indee.ru

Country Russia

Software used 3ds max, Photoshop, After Effects

> Composition was the hardest part of work. Even though it's still not perfect - I tried to separate the objects in harmonious way

Aftermath 2009

The main idea of this picture is to represent the undying hope of the person, who has survived a cataclysm involving war and environmental disaster. There's an obvious reference to *The Day After Tomorrow* here, but it's done with a Russian style.

> I rendered the final passes in V-ray and composited them in After Effects. Also I did some retouching and post-prod work in Photoshop

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"I used one V-ray sun source and experimented with different angles to achieve the dramatic shadow effect and set the overall mood"

"Modelling was made with a help of some reference models, which were seriously remodelled and retextured in 3ds Max"

Software used in this piece

3ds Max · Photoshop · After Effects

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Software used in this piece

3ds Max | V-Ray | Photoshop

behind the scenes

3D artists explain the techniques behind their amazing artwork

Artist info

Ivan Ulicný

3DArtistonline
Username: shinnok

Personal portfolio site http://shinnoksk.cgsociety.org/gallery

Country Slovakia

Hardware used Intel Core 2 Quad 9450, 8GB RAM

Expertise Product visualisations, modelling, lighting, animation and postproduction for print advertisement and television commercials

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Create a curious android

The Explorer 2009

> “I like to play with the idea of whether a human will ever create some kind of artificial intelligence. This is what my picture is about – here the android is exploring the world around us”

Ivan Ulicný specialises in product visualisations, modelling, lighting, animation and postproduction

This scene was my open project for a very long time. Partly it was because I needed to get enough skills to finish it and partly because I had so little time – that allowed me to work only in small time sequences. That is why the whole concept was changed every time I opened the scene and I only decided on the final concept after I had about half of the scene done.

Meanwhile I created at least a few sketches where I drafted the approximate final look of the android and I drafted the environment and approximate composition.

The picture represents the android, which familiarises itself with the variety of our planet and is fascinated by it. Regarding the concept of the android, I did not try to think about what he could look like in the far future but I deliberately worked with everything that is around us. Thanks to this, it is much easier to realise that this is not the human from the future, but an artificial intelligence, which is commanded by the scale of microprocessors and printed circuits. On the other side I tried to give a human face to the android, because it can express the emotions the way we know them. In my tutorial I would like to acquaint you with some methods and techniques that may be interesting to you and may well also be to your benefit.

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Concepts

I am not the kind of person that would hold some strict, defined concept. I usually create my own pictures over quite a long time, I make my concepts on the fly and I change them according to my actual inspiration. This project was accompanied by several main ideas and I sketched the design of the android, which I held when I modelled it. I personally think that "to retrace in 3D" from the already made design is much easier than to create it during the modelling process.

Design concepts

Where the android came from

01 Clear-cut concept

I did not try to create too original a design, where a viewer would have to think hard about what the point of the picture is – to say that the model of the android contains lots of illogical elements only for aesthetic reasons. I went mainly for straightness and primary idea A.

02 Environment articles

I am personally fascinated by the nature around us, and that was the reason I tried to put the android into the environment that I am impressed by. I tried to create the idea of an untouched, virgin jungle. That is why I chose the combination of plants from around the equator (bamboos, palm trees, lianas), which I thickly mounted to the scene. Because of the reflections, I put the plants also out of the field of view, where the camera could not reach B.

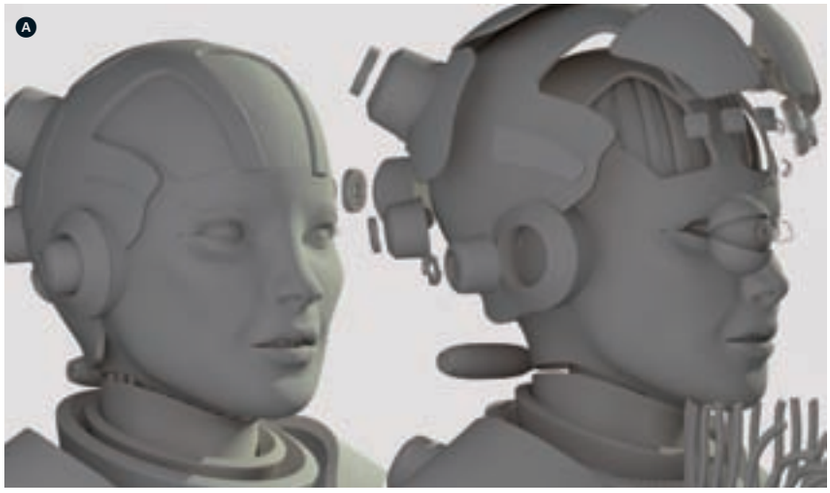
03 Composition and feeling of the scene

Originally I planed to make a composition for the high perspective, but later on I chose the HD proportion of the sides, to get a movie-style look and to cover a greater sense of space. I wanted the viewer to spot the eyes of the android first and then the place where the android is looking to – the spider C.

A The design of the android was based on looks rather than practical scientific application

B The environment consists of equatorial plants, populating both the viewpoint and the background

C The composition was created to give a wide open viewpointx



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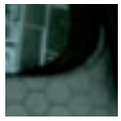


Modelling the android

Creating the head shape

04 Android head

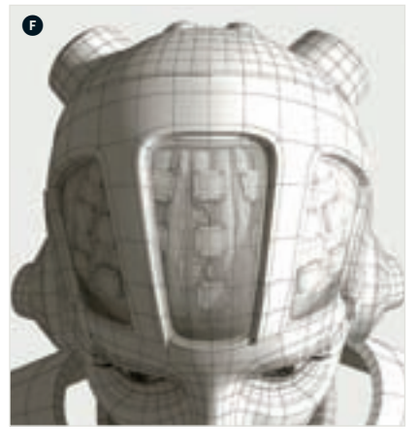
Basically, I had to model the entire head of a woman, which I then adjusted according to my further needs. I tried to keep the most of the human look and I changed only some details. I turned my attention to the cheek bones and the surrounding of the eyes, where I emphasised the edges D.

05 Modelling the eyes

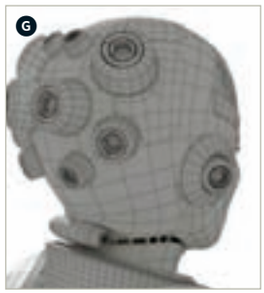
When the shape of the skull was done, I tried to model the eyes in detail. I consider the eyes to be very important, since they give the right expression to the face, tenderness and they communicate with the viewer. I paid special attention to the eye-stalk, which I made by compositing several parts and by this I created some kind of optics. I added the eyelashes and the line around the periphery so it is immediately obvious that it is a female android E.

06 Modelling the forehead and brain

Since I wanted everyone to understand immediately that this is an android, I decided to reveal the brain that manages her. I modelled the base of the look and step by step I put on individual components. I created the scale of microprocessors that are connected into circuits and among them run the conductors. Then I covered everything with glass parts, so it can be seen but not too much. Essentially, the whole brain is connected into simple objects. The conductors (wires) are made by splines and the microprocessors are boxes with little legs that I copied and put side by side. It was important that the base of the brain was textured by the circuits, and according to their placement, I then put the components down next F.



25 minutes **render time** Resolution: 5,000 x 3,000



D The shape of the head was modelled to be that of a woman with particular attention to the areas around the eyes

E A lot of detail went into the eyes, including emphasised eye lashes so it was obvious it was a female android

F The wire conductors in the brain were made with splines while the processing units were basic boxes

G The helmet and neck were quite simple to model

H The spider is made from extruded cubes and boxes

07 Modelling the helmet and neck

The modelling of the helmet was not very difficult. As a base I used cut parts of the head, which I later extruded. By doing this I was able to make sure that the helmet fit the head. I added the rim on the edges, so they were nicely curved. After finishing the main part, I created roller shapes, which I copied and put on the surface the way I had it drawn in my concept. Models are very simple; it is just all about adjusting cylinders. The last part was to finish the modelling of the neck. I isolated the neck from the head by a simple cut and inside I put the links around the circuit. From this I got the elasticity of the neck and also its nicer look. For the whole model I used quite high smooth, since I didn't want the edges and rimmed reflection to be seen G.

08 Modelling the spider and his web

I enjoyed the modelling of the spider. Of course, at first I found lots of references on the internet that served me well when I created the model and textures. I used a very simple method of modelling, where lots of the work I left smooth. The spider is made mainly from extruded and adjusted cuboids and boxes. Then smooth made all the rest work for me. Regarding the spider net – this is created by one spline into which, thanks to PF source, I put the drops of water. With this I could simply regulate their amount and variety. Basically every drop is the same model, only with a set range of largeness and embeds into the spider-web H.

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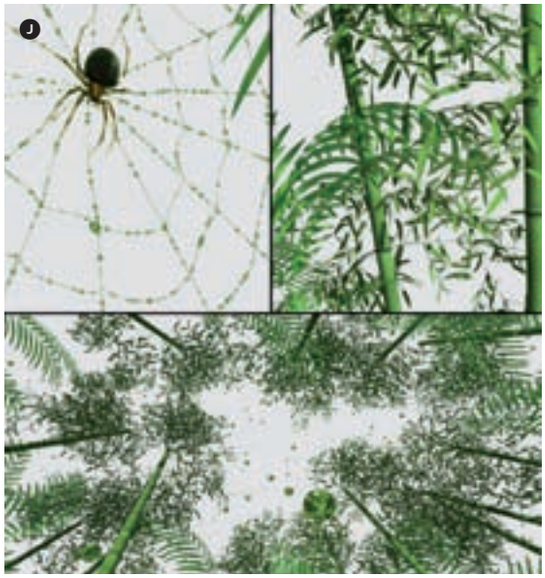

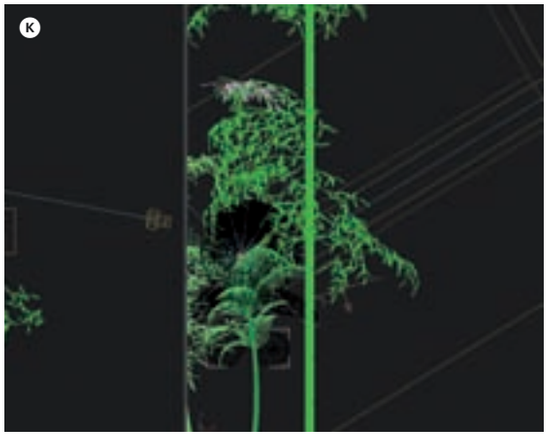

Compositing the layers

Post-production enhancements

09 Separate layers

Personally, from the whole process of creation, most of all I am fond of the final picture post-production and I am able to spend lot of time doing it. Many people rush with the final adjusting and with the picture finishing, and then they find out that everything could be done better. It is important to let a few days lapse after making the first intervention in Photoshop or any other postproduction program.

For this picture I rendered every object separately into the layer, so every one of them I could adjust according to my needs. This is also important from the point of depth of field, which I completely made in postproduction. I composed the picture from many layers. I had renders separately for the android, spider, net, and the plants in the front and rear part of the picture. For every object I rendered Z map and reflect map, which I used later according to my needs I.

10 Plant attributes

All the plants I used are completely 3D. I was inspired by the nature I saw in China, that's why most of the plants are bamboos and palm trees. Basically I rendered almost every plant separately and the composition, DOF and lightening I solved in post-production J.

11 Lighting scheme

When lighting the scene I used only one direct light with the combination of GI (IRR map+ light cache). For finishing the lightening of the spider web I used the sphere with the V-Ray light material K.

12 High res rendering

I rendered the picture in a quite high resolution – approximately 5000x3000 – and that is why I had to insist on great details, for example, through smoothing of the individual models, sharpness, and the details of textures and materials. For any small mistakes which that revealed later, I simply retouched in Photoshop L.

13 Colour corrections

A very important aspect for me is the atmosphere and the depth of the picture. This is why I spent lot of time on colour corrections, adjusting the contrast and exposition. I used ordinary tools from the Photoshop without added plug-ins M.

Making textures

When texturing, I used many blend materials, mainly on the face of the android where I combined materials like V-Ray light with ordinary V-Ray materials. I considered the material for the spider legs over some time, because the light should merge through them in some parts. I solved the problem quite simply afterwards: I used ordinary vray material, for which I created the map of refractions – I made it that way so that the legs weren't transparent in the joints. The colour itself and the intensity of the light effect I made by the fog colour and fog multiplier in a refraction slot.

I The final image was composed from many separate layers in Photoshop

J All the plants were rendered separately with depth-of-field issues solved in post-production

K There was only one direct light used together with the Global Illumination

L The image was rendered in hi-res with problem areas retouched in Photoshop

M A lot of time was spent on colour corrections to create the atmosphere and depth

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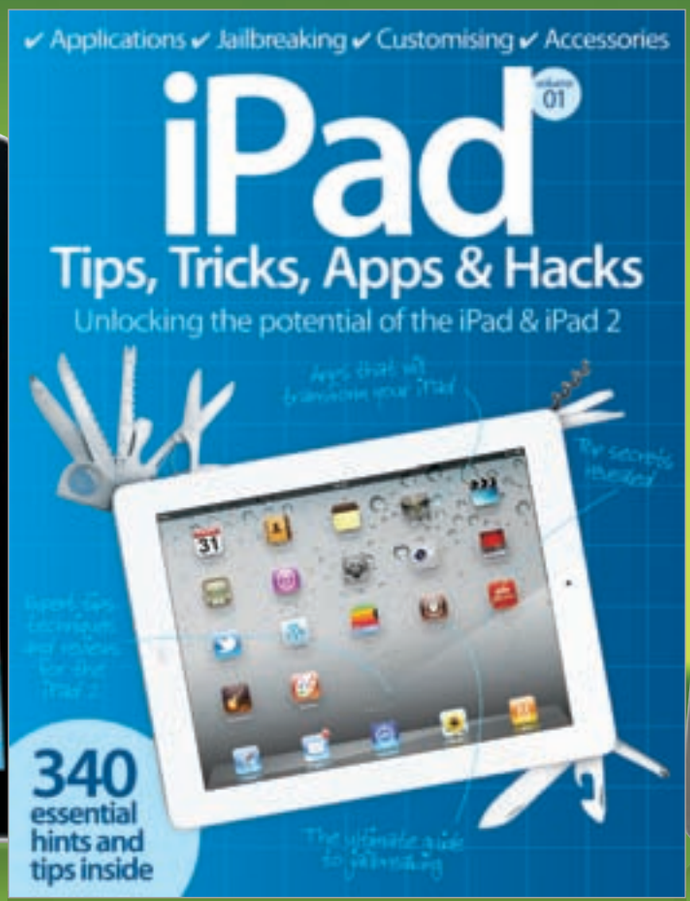

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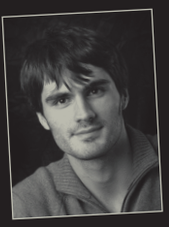
I made this...

Incredible 3D artists take us behind their artwork

Artist info



Petar Balsic

3DArtistonline

Username: balsicp

Personal portfolio site http://pbalsic.cgsociety.org/gallery/

Country Serbia

Software used Maya, Digital Fusion

"The trees took most of the modelling time. I wanted to create organic and lively looking trees, so I decided to go with curly shapes. I used Maya for base mesh modeling and then Mudbox for details"

"The composition is one of the most important things for me so I like to spend quite some time in planning it. It is always good to make a concept before you start working in 3D. I wanted to add more depth to the image and to create a dramatic look by putting the foreground details like the trees, and the plants"

Software used in this piece

Maya

Digital Fusion

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"The lighting was a really interesting part as well. I am someone who likes to use a bunch of simple lights in order to fake stuff like GI or FG. That way I have more control over my lighting and the rendering is much faster. I started with a directional sun light and light dome. After that I put in more lights such as rim, fill and bounce"

"I decided to use Mental Ray for rendering. I made several passes such as beauty pass along with volume light, fog, ambient occlusion, masks etc. By saving them in a 32-bit format I was able to tweak the colours in Fusion more easily"

The Misty Swamp 2010

Most of my works are inspired by fantasy and cartoon so I could say this one is not the exception. My idea was to create a swamp controlled by some sort of magic. I found it interesting to do, especially the modelling and the lighting part. My first task was to make a concept.

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Step by step: Creating a ferocious warrior

Barbarian 2009

"A commissioned piece which had to be turned around in a few days... Poser to the rescue!"

Paul Francis specialises in figure work, landscape and visualisation

In this tutorial, I'll be taking you through how I created my Barbarian image, which tools I used, how I put it all together, and also how the whole thing came about; it's one of my favourite images – read on to find out why! It takes the standard M4 male figure, adds some muscle morphs to make the guy have heroic proportions and uses an off-shelf, high res skin shader to make it more realistic and with a higher quality feel.

I was contacted out of the blue by a Far Eastern electronics company, who wanted a picture of a barbarian warrior as the box art for a new graphics card. The main stipulation was that they needed it within a few days, but other than that the brief was wide open. I knew that with a little work – and some assistance from Photoshop – Poser can be used to produce professional-quality work. The beauty of using Poser is that there's literally thousands of ready-made models, figures and props that are available, so I knew I would be able to turn it around in time without having to do any time-consuming modelling. Having accepted the commission, we negotiated a price for the delivery of a 3000 x 2400 camera-ready piece of artwork within a week. It has also now been used as the box art for Epic's *Time Wars* Trading Card Game, so I got paid twice for it!

Concepts

Inspiration behind the scene

01 Having accepted the commission, the pressure was now on to deliver it on time. I quickly assessed the models I already had on my hard drive, and identified that Daz' M4 character was going to fit the bill, as he has convincing Frazetta-like muscle morphs that come with the figure and would require the minimum of post-work to look the part (although he doesn't look too Barbarian-like yet).

02 I then spent some time scouring commercial websites looking for suitable costumes, and identified two that seemed to fit the bill – one of which included some muscle morphs and high-resolution skin shaders, which would add an extra dimension to the base M4 figure. For the cost (£10-15), the amount of time you can save by using ready-made props is just too attractive an option to pass up.

03 Having satisfied myself that I had all the elements I would need to proceed, I then spent some time trying out different poses, compositions and general concepts, before settling on a strong central character. I provided a small rough of this for the client, which was approved.

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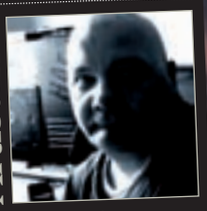
Step by step

Easy-to-follow guides take you from concept to the final render

Artist info



Paul Francis

3DArtistonline
Username: StormdrainGFX

Personal portfolio site http://paul-francis.cgsociety.org/gallery
Country United Kingdom
Software used Poser, Photoshop, Vue
Expertise Figure work, landscape, visualisation

Software used in this piece

Vue | Poser | Photoshop

Design, Texture, Lighting

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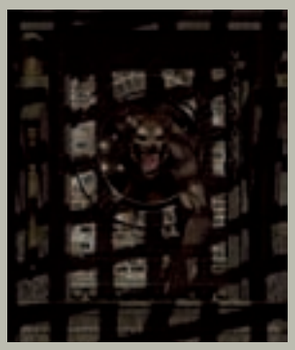
Artist Showcase

Paul Francis

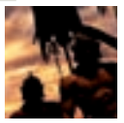
I've been making CG imagery since about 1998, although I trained as a landscape painter and photographer. I regularly use Poser in my commercial work, and believe that my grounding in the traditional visual arts has stood me in good stead with my CG work.

***Time To Prey*, Poser, Photoshop (2009)**
I've been looking for a new way of working, trying to produce more fluid and energetic compositions, with a feeling of movement. Importing the render into Photoshop and attacking it with a variety of brushes and some blur seems to be the way to go.



***The Night Of The Werewolf*, Poser, Photoshop (2009)**
I've been really getting to grips with the lighting in Poser recently; it's the single biggest factor that can make the difference between a mediocre render and a better one. Minimal postwork, for once, and I just had to use that werewolf model!

***Fiery, The Nagles Fell...*, Poser, Photoshop (2009)**
Along with trying to create more dynamic images, I've also begun to experiment with layered renders. This figure was rendered with the bloody, yucky texture, then a more normal render was overlaid on top of it. Using Photoshop, I then gradually and selectively erased the top layer to expose the other version underneath.



Constructing the scene

Putting it all together

04 **First off, I** needed a moody sky, and one that I could create quickly. Much as I love Poser, one of its limitations is that it's no good for skies, so I turned to Vue 6, which excels at atmospherics and lighting. I didn't need it to be too fancy, but I wanted it to be dramatic and needed to be able to match the lighting in Poser.

05 **To add depth** and interest to the image, I needed some background figures. So back in Poser, using the main figure as a base, I produced some simple characters against transparent backgrounds. To speed up the rendering I lit them as near-silhouettes, and was able to quickly produce several low-quality renders featuring a variety of poses and props.

06 **Once I had** a set of these, I imported them into Photoshop as separate layers, which were duplicated, rotated, scaled and flipped to provide a bit of apparent variety in the crowd. I also darkened the layer down, as I didn't want the background figures to detract from the foreground figure.

07 **Back in Poser,** I had to bite the bullet and render the main figure now. I had tried him out with long hair from a totally different figure (a female one in fact) and it seemed to work, but to get the effect I really wanted I had to use the hair model twice.

08 **Although this is** a full-sized render of the figure, you'll see that it doesn't have the hair on it. This is a neat trick to deal with poke-through when you haven't got time to fix it in Poser (see the boxout to find out how to use this method).

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Adding fine details

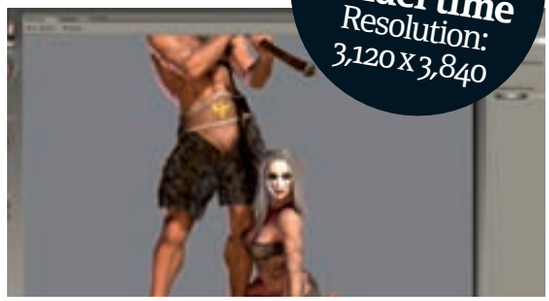
Refining the scene and lighting

14 hours render time Resolution: 3,120 x 3,840

09 The first thing I noticed after the initial render was that the figure was too clean, so I used Photoshop to add some blood splatters and dirt to the texture map used by Poser. This meant that the blood could be given specularity to make it look real, and the rendered results would always be consistent, rather than painting it on the render.

Cleaning up

Using the hair twice, with all those transparency maps, meant an 18-hour render – only to be dismayed at the amount of hair that was poking through the figure in the finished render. A quick solution was to render a version without the hair, but which is otherwise identical. In Photoshop, this is added as a layer under the original render. Using an eraser tool, the top layer is then selectively erased where the hair is poking through, exposing the version with no hair. It's an instant fix. Some might consider it cheating, but hey, a deadline's a deadline!



10 I decided that his shorts would look better – and more Barbarian-like – as fur, so I used the Hair Room in Poser to produce a hairy version of them. You can't see them properly in the main render, so here's an alternative view of them. I also took the chance to change his sword for the one in the final render.

11 Having composited all the layers together, it was time to add some atmosphere to give the image depth, which takes seconds in Photoshop. I also added a dark cloud layer behind the crowd figures, as the Vue sky cuts off a bit abruptly at the horizon.

12 I wanted a more Berserker-like expression, and the original render didn't cut it, so I re-rendered the M4 eyes alone and put them on a separate layer over the original head. This highlighted them and gave them much more intensity, and the crazy look I was after. I put the two versions here so you can see what I mean.

13 The final render, with the final lighting setup. I needed this to match the Vue sky as closely as possible, and I'm pleased with the way it has delineated the figure's muscles, considering that there's only three lights. A final tweak of the levels and layer opacities in Photoshop and it's finished.

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I made this...

Incredible 3D artists take us behind their artwork

Artist info

Iker Cortázar

3DArtistonline

Username: ICB

Personal portfolio site http://icb.cgsociety.org

Country Spain

Software used Maya, Mental Ray, Mudbox, Photoshop

"The first, and one of the most important, things with the modelling was to find references for all of the objects in the scene before starting. Sometimes I'd spend more time looking for references of a particular object than on the modelling of it!"

"The scene was rendered with Mental Ray, using Global Illumination and Final Gather. There were two lights emitting photons: the main light that's on the roof, and a green light on the reading lamp (although the latter had a very slight effect on the Global Illumination)"

Banker 2009

With this image I wanted to convey my personal interpretation of the personality of a banker. Besides his love for money, one of the things I wanted to suggest was a connection between bankers and politicians. In the background you can see prizes that are directly connected to politics, such as the "Key of the City". The two trophies on plinths represent money and power, the two most important things for bankers and politicians.

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"The character took me the longest. For this I used box modelling for the head, spending lots of time on it until I achieved the expression and pose I was looking for. I also used Mudbox to create a normal map for the head and hands of the character"

"I wanted to light the character and the table, keeping the rest of the room in half-light. The main light was placed on the roof and there were a couple of additional fill lights on the character, the table and the chair. I also used some green lights to simulate the effect of the reading lamp"

Software used in this piece

Maya | Mental Ray | Mudbox | Photoshop

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Step by step: Create a sexy fairy woman

Sexy fairy 2009

Software used in this piece

3ds Max | Photoshop | BodyPaint | ZBrush | Mental Ray

> The biggest challenge was to give a sensual tone to the scene and make the hair of the character. The idea was it would be beautiful, flowing and sensual, with a natural tone

Kleber Darcio Lorenço Silva specialises in modelling, texturing, concept art and composition

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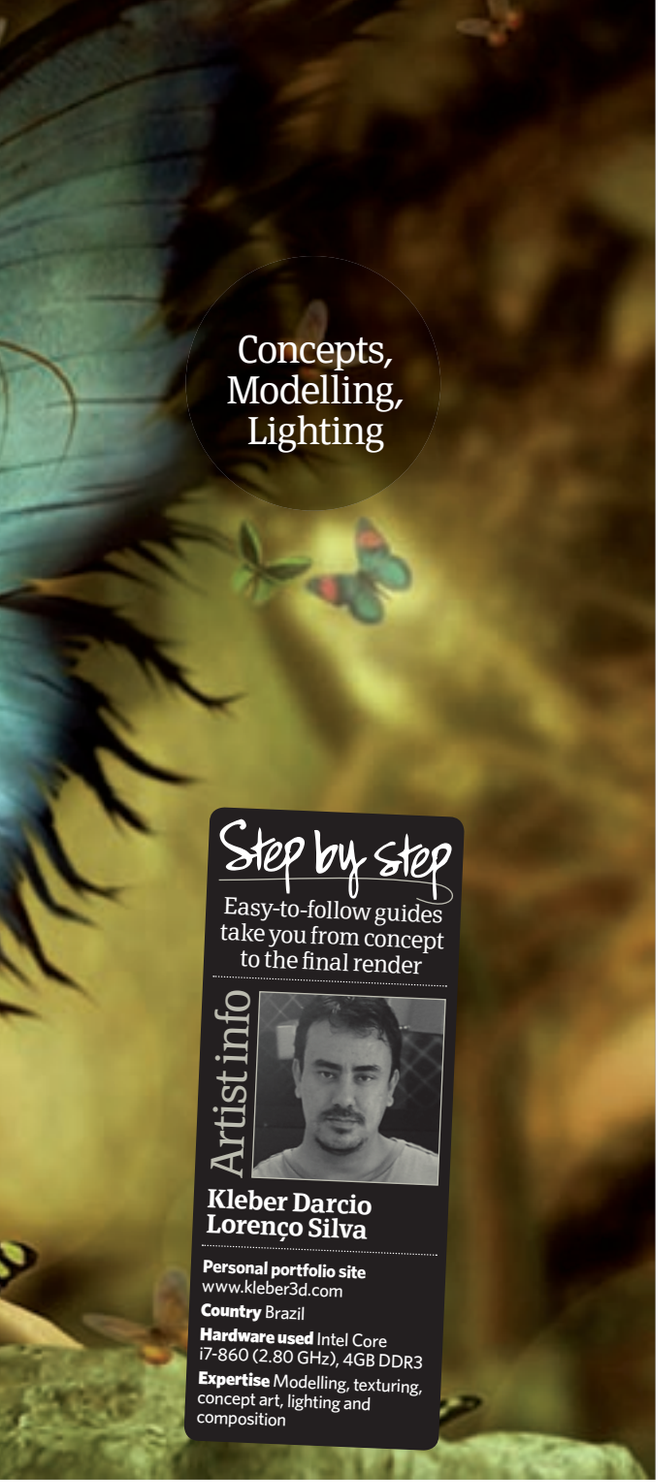

Concepts, Modelling, Lighting

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Kleber Darcio Lorenço Silva

Personal portfolio site www.kleber3d.com

Country Brazil

Hardware used Intel Core i7-860 (2.80 GHz), 4GB DDR3

Expertise Modelling, texturing, concept art, lighting and composition

This tutorial will explain the process I used to create this character. The model was made from a base mesh of an old character that I'd made previously. The technique used was poly by poly with added detailing using ZBrush. The model was exported to ZBrush, refined, then brought back to 3ds Max to continue the process of creation. ZBrush wasn't used to model the character as such, more to add the details. The biggest challenge was to give a sensual tone to the scene and make the hair of the character. The idea was it would be beautiful, flowing and sensual, with a natural tone. The renderer used for the scene was Mental Ray FG, especially in the swimsuit. I used a SSS shader to create the skin and various maps were used to create layers compositing such as diffuse, specular and reflection. Photoshop and BodyPaint were used to paint the texture of the fairy, Photoshop did all the background work and BodyPaint was used to paint the details directly on the character.

Concepts

The inspiration behind the scene

01 **The concept for** the fairy was inspired by the models of the Victoria's Secret lingerie fashion show. The idea was to give the character an air of sensuality and beauty. Transmitting this concept to a virtual character was a big challenge. The problem is that actual models are gorgeous and know how to work the camera with their eyes and sensuality. The virtual character would have to convince the viewer without any of these advantages.

02 **The image was** designed to mix beauty with a nice 3D fantasy environment. One of the challenges was to make the scene with beautiful shades of colours, making it visually surreal and highlighting every detail of the character. The lighting was to simulate a studio light made by a photographer. The image had to present cold tones mixed with vibrant colours of the wing and butterflies.

03 **The choice of** the background of the scene was set to look like the fairy was sitting posing for a photograph, but with a surreal touch. So, this was simulated by an artificial forest, with a ray of sunshine shining through the trees to give an air of fantasy. It also created volumes of light where the butterflies were flying.

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Artist showcase

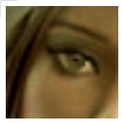
Kleber Darcio Lorenço Silva

I have been working with 3D for some time, and have always focused on quality and detail. I have focused primarily on modelling, then renders so I could finish a scene completely. I have worked on large projects and am very happy to work for the love of 3D.

Wonder Woman **3ds Max, Photoshop, BodyPaint, ZBrush, Mental Ray (2009)**
A character created for studies that's my personal vision about Wonder Woman. I hope you like it. Modelled in Max, ZBrush, also BodyPaint, Photoshop. Rendered in Mental Ray. The hair was made in hairfx combined with textured planes.

Robot **3ds Max, Photoshop, BodyPaint, ZBrush, V-Ray (2009)**
A character created for the client Potugal. Modelled in 3ds Max with help from BodyPaint and Photoshop. Rendered in V-Ray.

Lady-bird **3ds Max, Photoshop, BodyPaint, ZBrush, V-Ray (2009)**
A character created for animation. Modelled in 3ds Max, ZBrush, also BodyPaint, Photoshop. Rendered in V-Ray



Modelling the fairy

Creating the picture

04 **The model was made** from the base mesh of an old character I had already made. The technique used was poly by poly, refining the model. The character was placed in the pose bones so it could be manipulated. ZBrush was used to define and add details to the mesh of the character. This created more definition and subtlety in the expression of the character.

05 **The hair used the** technique of planes combined with textured hair and fur using 3ds Max. The planes had the colour and texture of hair and a map in the alpha channel opacity of the tips. In the more voluminous areas, hair planes were used more. The individual hair and fur was mostly used in the loosest of threads.

06 **The clothing items** were created to be sensual but not vulgar as the fairy would have to be sensual. I created the cloth with a golden glow that involved the lighting of the scene. The clothing model was made upon the body of the character data and the details such as deformation and folds were added in ZBrush.

07 **The fairy wings** were made with the same technique that was used in the hair. They were planes onto which the texture was painted. Then the opacity and translucence was set in the shader. The blue colour contrasts with the colour tone of the scene, highlighting the character and breaking the cooler tone of the scene.

08 **The expression of** the character had to be sexy, but would have to be pure and delicate, with a more serene, beautiful and engaging tone. The structure made in 3ds Max had assistance from morphs where various expressions were made by adding some expression combinations. So I experimented with nervous eyes contracting, her mouth open, eyes closed, but the final image was the serene expression you see.

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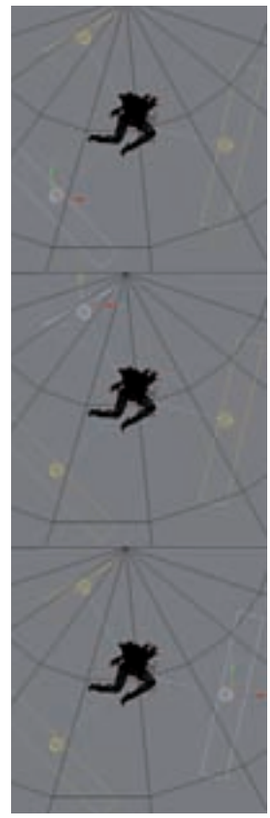
Volumetric lighting

Refining the scenery and lighting

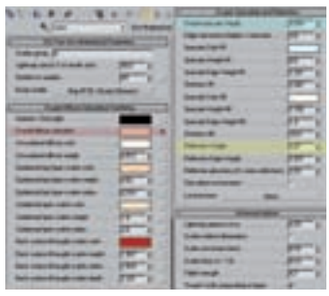
09 **The lighting was** done to highlight the curves of the character and to make the scene more fanciful. For this a key light interacts with the ambient light that falls on the trees along with the butterflies. The key light is set to let the strongest points of light mark the silhouette of the character. The sidelights give more depth to the skin tones and the clothing. Colour and light are two powerful tools that help enhance the mood of a scene that has been established by the composition, camera angles and characters. Firstly you see the result of light being reflected from a surface up to the eyes. The colour is a quality of light taken from a surface, based on the frequency range.

10 **To generate the** lighting three Photometria lights were used: the key light, front light and side light. These provided the ambience for the scene. Each light colour was set to match the colour palette of the scene. The lights had an important function because in nature, light flows, revealing and concealing areas. The light shines, reflects, refracts, reacts and diffuses into the air. The light is warm or cold, high or low, near or far, bright or dark, strong or mild. In the digital world lighting is a matter of calculation. Normal alignment, G-buffers and Z-buffers determine the display of light. Where the calculation misses the mark, the artist has to compensate and correct. The temperature of light is a technical aspect that can affect the emotion of your scene. Essentially the temperature of light is a physical aspect of the light source which affects the colour of the light. However, it is not the same as using colour filters on lights to create colour.



1 hour render time
Resolution: 1,800 x 1,013

11 **The character's shader** was made with the SSS Fast Skin in Mental Ray. The skin needed to have the exact brightness to make it both realistic and fanciful, then working with lighting shader to achieve that result. Maps were used to work together to result in uniformity between the dermis, epidermis and subcutis skin layers and the specular and reflection aspects.



12 **The backdrop was** all done in 3D. The vegetation was created in 3ds Max and rendered with Mental Ray. Once completed the background image was placed in the composition. The layer was designed to merge with a colour palette to create a more pleasant scene in accordance with the skin tones of the fairy. Making the character was the highlight of the scene.

The lighting plan

The greatest difficulty in creating the image was deciding which technique would be better for the hair. The textures were made and painted in Photoshop with an extra touch in BodyPaint. The lighting was done with a keylight and side lights, with the toning following the colour palette. The best option for this was to use Photometria lights before rendering the scene with Mental Ray.

13 **To create the** final image I separated z-depth maps for depth and occlusion maps to define shadows and contacts were rendered. These were then composited in Photoshop. The fairy character was actually rendered separately and then the two images were combined with a colour map being used to match the ambience between the two.

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3DArtist

Masterclass

Mike Batchelor leads you through a seven-step tutorial and explains all you'll ever need to know about this render-saving technique

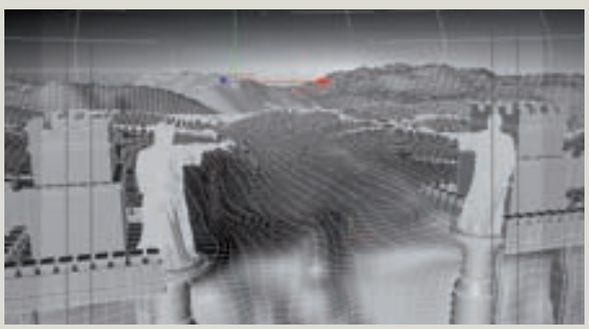
Getting to grips with projection mapping

> It's known as a '2.5D' scene because we use a 3D model and take an image that is painted over a flat render of the 3D model

In this tutorial we will be taking a look at the art of projection mapping, the technique of using a 3D camera to project an image or texture onto the surface of a 3D model or scene to create a new 2.5D world. It's known as a '2.5D' scene because we use a 3D model and take an image that is painted over a flat render of the 3D model/scene, and it's then projected back onto the mesh, becoming an illusion of 3D.

This technique is used primarily in the matte painting industry, using camera mapping to produce huge vistas and landscapes seen in blockbuster films and television. You can see it used in films such as *The Polar Express*, *Surfs Up* and others. In *The Polar Express* for example, CINEMA 4D's Projection Man was used to complete the backgrounds seen in the film.

A



It has many benefits over the traditional system. Matte painters hand-painted their environments and landscapes directly onto a glass plate that was then used in the background of a shot to create the illusion of a new world or huge landscape, placing the actors and foreground props in front of the mattes. Using projection mapping, we can add a new level of visual depth and 'space' to our shots. We're now able to move the camera through our matte paintings, taking this old technique to a new level of realism.

In the following tutorial, cameras are used to create a new landscape, with background mountains and a river leading to a huge waterfall braced each side by old stone guard towers. Using the built-in tools within Maxon CINEMA 4D, we will model our scene then use Projection Man to set up cameras and take 2D snapshots of the environment.

After all the paintings are done, they will be re-imported and projected onto our base mesh.

From this stage you can add more details such as a sky and other elements to make up the final shot, ready to take into your favourite compositing application.

After you have the final scene ready you will be able to move your main camera around the scene (within the boundaries of the matte painting) to work out your animation path. If you find you need to take the camera past areas that haven't been painted, simply use the techniques already discussed to repaint over the parts you need to see.

01 Modelling

Using the standard CINEMA 4D modelling tools, we'll create our scene. To start we will add a plane to the scene. Go to the Objects menu>Primitive>Plane. Subdivide the plane to 100 x 100 segments, scale it up to suit, then make it editable. Next, go into Poly mode then right-click and choose Brush. In the Attributes Manager set the Brush tool to Smear and sculpt out your landscape. After that, set up the outposts, modelling from a cube A.

02 Setting up Projection Man

Put the elements in order by grouping and naming in layer sets. Now go to the Menu bar>Window>Projection Man. This opens a new dialog box showing you a list of the

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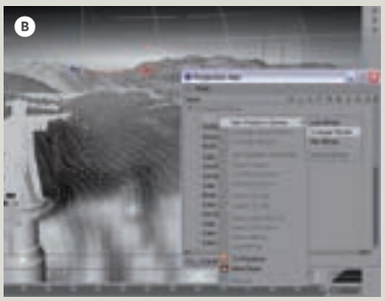
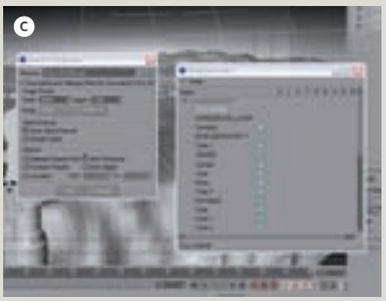
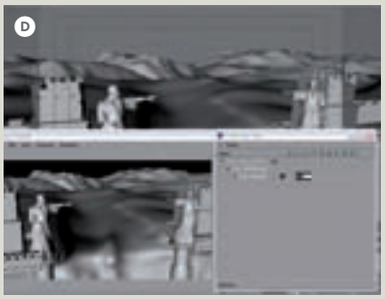
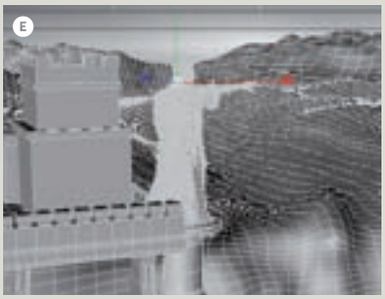
Finishing touches

It's a good idea to add some effects elements to the painting to help sell the final shot. In this scene I've set up some lights to become the mist created around the waterfall. If you were animating the scene then you'd add some particles to the waterfall for water. I have a light for God Rays and also an environment set up with Fog active to add some depth. I render these out as separate passes and combine them in Photoshop or After Effects, for example for compositing. I've also added some grading colour and noise to try and help fit it all together. Lastly, if you have any problem areas in the matte painting – for example, parts not sitting correctly or areas that need more painting – you can advance the camera shot some more. Simply start up Projection Man, select the area you want to fix up and render out that part. It will create a new camera and shader to project just on that area H.









objects in your scene. We want to select the top parent null we grouped our scene into. Right-click the parent null and choose New Projection Camera>Coverage Render. This will take a render of your scene and then import it directly into Photoshop B.

03 Projection Man settings

After you select Coverage Render you will get a new dialog box. This will tell Projection Man how to render the scene. We need to set the size to match the scene size we set earlier. We define the mode whether RGB or greyscale, and our bit depth. We will be using RGB and 16-bit. We also want an alpha, so tick the Save Alpha option, then hit OK to render the scene out to Photoshop. If you have a sky layer, turn it off for now so we get an alpha of the distant hills C.

04 Rendering the scene

After you hit OK, Projection Man will do a few things. It will render a snapshot of the scene and open it directly into Photoshop. Look back in CINEMA 4D, and you'll see a new camera called PCam and the name of your top null. This is the actual projection camera. Also, the parent null now has a texture on it, which is the rendered scene being projected back over the geometry. If you look at the material you can see the new render is in the Luminance channel. If you want to use lights later on in the image and you require them to affect the scene, you'll need to add the texture to the Colour channel as well D.

05 Projection tag

Next thing we'll do is copy the camera. Simply press Ctrl and drag until you get an arrow and see a + sign, which means we can drop our copy. Rename the new cameras 'Main_Cam' and 'Projection Cam'. Add a protection tag to the Projection Cam, so we won't be able to move it out of place. Now we can use the Main_Cam to animate a camera move later, if we decide to animate our scene E.

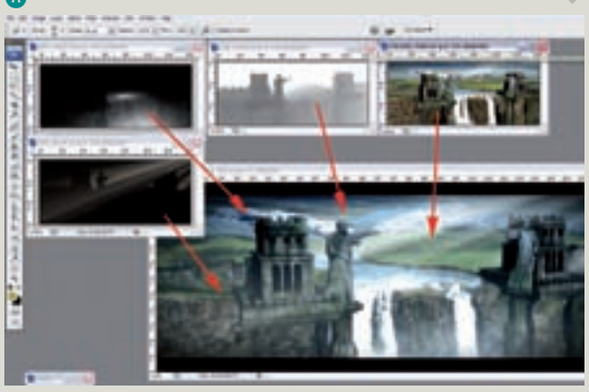
06 Photoshop work

Once we get into Photoshop it's time to do the matte painting. Gather plenty of reference images from the internet, and use parts of these images to build up the scene. Split the matte into three main areas – layer one will be the sky layer, layer two the background (landscape) and layer three the foreground elements. Then make your matte painting. The reason it is split up in this way is so that one projection won't affect another F.

07 Final render

Back in CINEMA 4D there are a few things to do. First copy the texture Projection Man created three times. Second, for each one import the correct Photoshop painting we created – sky, background and foreground. Make sure you also add the alphas for each later. Once done, drag the original shader onto each group in the Object Manager and then drop the new textures onto each part, and you will then see your mate painting G.

H



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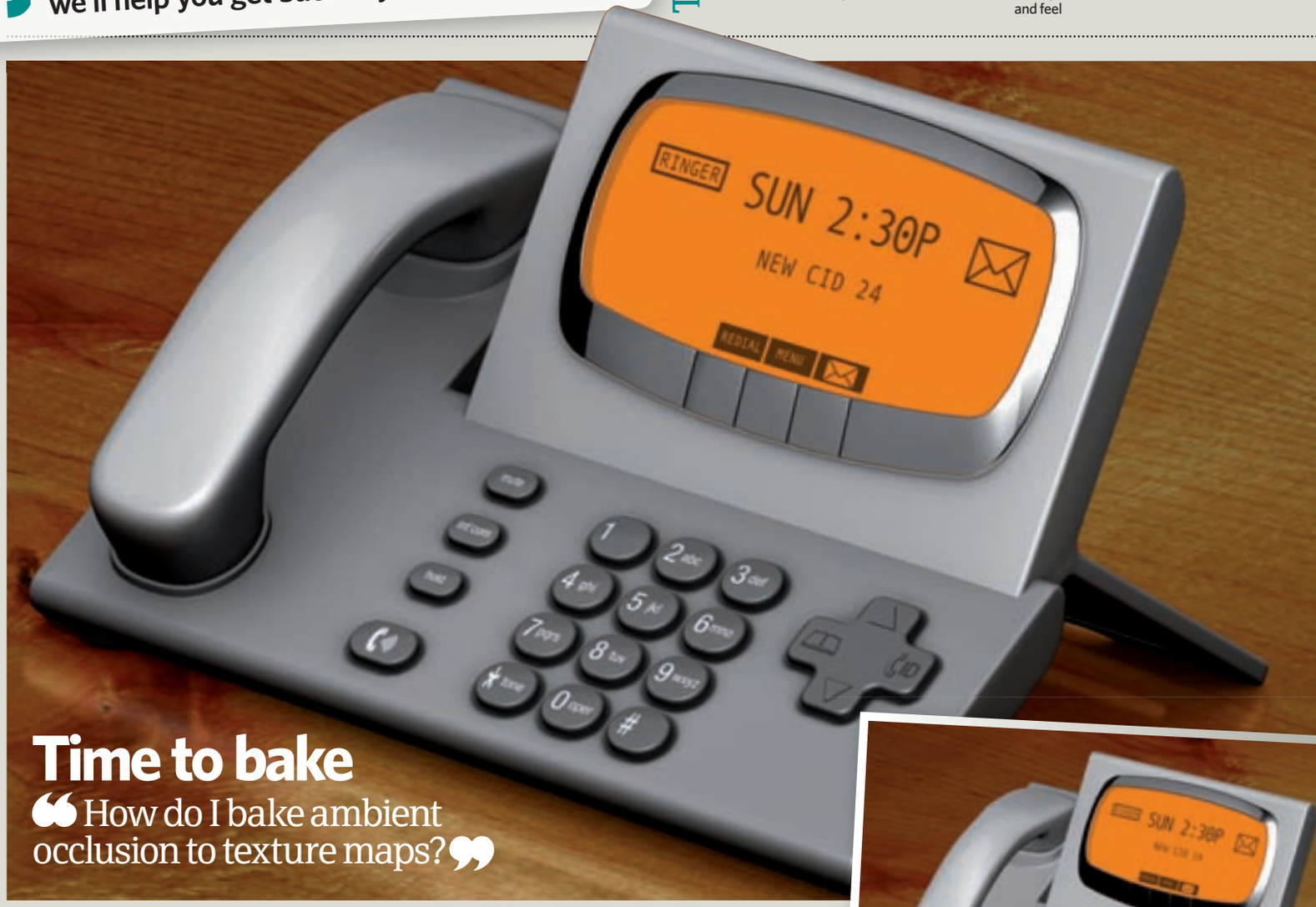
Maya
Lance Hitchings
www.hitchingsdesign.com

Lance is our Maya master, and in this issue he explains how to enhance images by baking Ambient Occlusion renders to texture maps

3ds Max
Ryan Knope
info@ryanknope.com

Ryan is our architecture and 3ds Max expert. In this issue, he discusses the options for giving your exterior scene a rain-splashed look and feel



Time to bake

"How do I bake ambient occlusion to texture maps?"

An ambient occlusion render can add to the realism of any image, including a Final Gather render. It provides for a very realistic distribution of ambient or indirect light, and the very soft shadows that result.

There are a number of ways to include an AO (ambient occlusion) render in your final image; you can do a separate AO render and add it to your image in post when you composite, or you can build all of your textures out of mental ray architectural materials and turn on the AO attribute. However, both of these methods require a rendering engine that is capable of producing AO renders. Sometimes that's not possible.

If you're developing content that must be rendered on the fly, such as for games or for delivery over the internet, chances are you won't be working with a rendering engine capable of AO renders. (A)

The solution is to bake out the ambient occlusion as a texture map, composite it with your original texture map and then use the composite as your final texture map. Now, with the ambient occlusion 'baked in', a very fast rendering engine will be able to crank out animations on the fly while still producing the look of an AO render.

01 The original render

Here's a simple render of a telephone with pretty basic lighting, which we'll use for the sake of comparison. Pretty flat looking (A).

02 Set up the ambient occlusion attributes

The first step is to set up an ambient occlusion shading network. In Maya version 2008 and earlier you'll be able

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CINEMA 4D
Daniel Lovas
http://lovas.cgsociety.org/gallery/

Daniel is our resident CINEMA 4D specialist. Here he explains how to create grass and furry surfaces if you don't have the CINEMA HAIR module installed

Vue
Dominic Davison
www.3dartistonline.com/user/dom1

Dom is one of the top people creating realistic landscapes in Vue. In this issue, he shows how to add rain to your scene

Poser
Paul Francis
www.3dartistonline.com/user/stormdraingfx

Paul is a former modeller for programs like *Red Dwarf*, and he is also an accomplished photographer. This month he explains how to create custom textures

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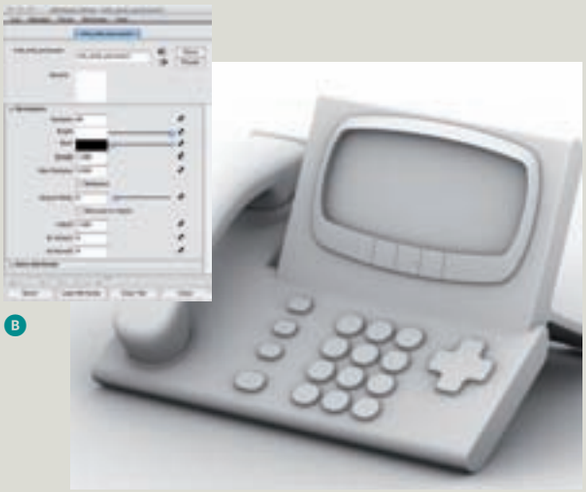

B

C

D

E

to set this up by using a Render Layers preset. In 2009 and 2010, Autodesk removed the AO preset so you'll have to set it up manually B.

03 Bake out a texture map

Now we need to set up the attributes for baking the Ambient Occlusion to a texture. In the Rendering menu set, select the Lighting/Shading>Batch Bake (mental ray) options box. Above (see image C) are the settings that I used.

You'll need a baked AO texture map for every mesh in your scene that requires one. You can either select All under Objects To Bake or choose Selected and then select all the meshes you want to bake out. In this scene I didn't select the chrome frame of the display, or the illuminated display itself, because neither would look realistic with AO.

With Occlusion selected as the Color mode in the Texture Bake Set Override section, the Occlusion Ray should be set the same as the Samples in your AO texture, and Occlusion Falloff set the same as Max Distance.

Maya will create a new texture map for each mesh, and save it in the Render Data>mentalRay>lightMap folder of your project C.

04 Composite the final texture map

Composite the new texture map with the baked AO onto your original texture map. The image above shows the baked AO added to the wood grain of the desk D.

05 Compare the results

The final screenshot shows the original render compared to a quick render with the baked AO textures. Adding ambient occlusion to your render produces a subtle effect, and yet it goes a long way towards making the final image seem more realistic while anchoring the phone to the desk E.

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3DArtist Your questions answered

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Creating tattoos and graffiti

"How do I create custom textures for adding tattoos to people and graffiti to buildings?"

In Poser, this can be much easier than you might think or more complex than you can imagine, depending on the level of realism you want. For the purposes of this article I'll be taking the easy road because it still gives fairly good results. The more complex route, involving Poser's material nodes and mathematical blending functions would require almost a whole issue of **3D Artist** magazine to really explain properly, and the results aren't spectacularly better than the simpler method.

The hardest part of customising an existing texture in Poser, or making your own, particularly when adding a tattoo onto a human figure, is planning your design to take account of how the edges of the individual texture maps wrap around the body parts, and where the edges meet. Some useful tools here, if you use Victoria or the other Daz figures, are seam guides available from Daz3d; these should help you in lining up the edges of your tattoo with the respective body parts. In the example I'm illustrating here, I've taken the easy way out and put the tattoo on Victoria 4's hip, because in her case the seam in the texture map runs right down the middle of her back.

Identifying the texture map

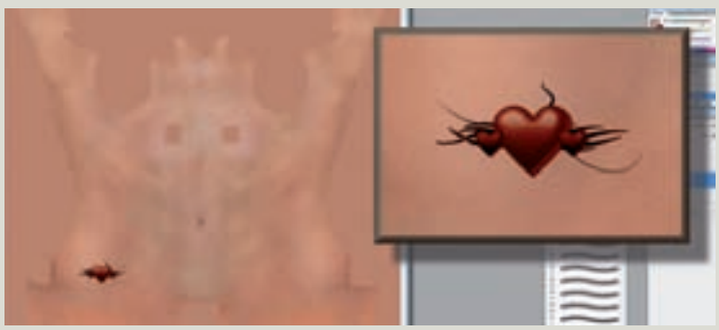
If you've never gone looking for a Poser texture map before it can seem a little daunting, particularly as, if you've got a figure plus some clothing and a few props, the list of texture maps in an individual scene can quickly overwhelm you. I've kept this one simple – just Victoria, her hair, two clothing items and a wall. The texture maps are to be found inside your Poser Runtime folder. Each figure will have its own folder, where you'll find all the texture maps, usually saved as JPG files. Once I found the texture map I was looking for, in this case Skin:Hip, I opened it in Photoshop.

Customising the texture

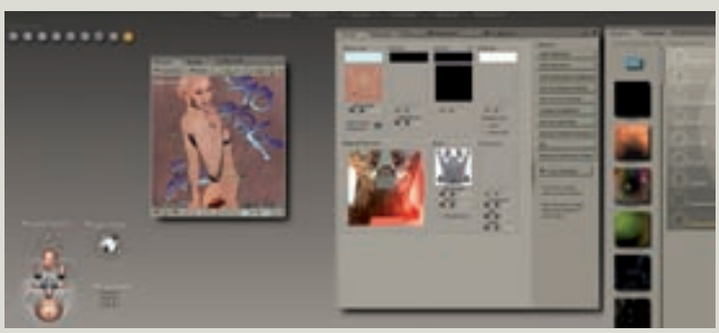
With the original texture map opened in Photoshop, you need to add your tattoo and/or graffiti as a separate layer. Before leaping right in though, it's necessary to identify where on the texture map the design has to go in order to be aligned properly, as it's not as straightforward as it might be. I usually render a test image with a piece of text overlaid on the texture map to identify how Poser will align it on the figure. Once you've identified the correct part of the texture map, you can paint your own design over it. In this case I used some of Obsidian Dawn's Photoshop brushes and a graffiti font for the text.

Back to Poser

I applied a small amount of Gaussian Blur to the tattoo when I'd finished. Remember to save your new texture as a JPG, but don't forget to give it a new name as you'll overwrite your original texture otherwise. This would be a disaster, as several body parts probably use the same texture. The graffiti was done in the same way as the tattoo. In the Poser material room, I then instructed Poser to use the new texture maps only for the Diffuse Colour on the hips and wall; this retains the original bump map information, so the graffiti looks like it's painted on stone and the skin texture runs through the tattoo.



A Poser texture map opened up in Photoshop; you can see how Poser wraps the texture around a figure



The Simple interface of the Poser material room; using this method you don't need to open the Advanced interface

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Rendering in the rain

"How can I make my outdoor scene look like it's just been raining?"

There are many elements that can help an outdoor scene look like it has just rained. There are quick and easy things, along with those that take more time. Let's get down to identifying some of the key elements.

When it rains there is usually a slight haze, as the air is holding more water. This is easiest done in postprocduction with a hazy cloud type layer with a low opacity. It can also be accomplished by using Fog inside your 3D application.

Surfaces such as concrete, dirt, stone, wood and other materials change their colour/intensity as they become waterlogged. This can be accomplished by making certain materials dark as a whole, or only in certain affected spots.

Most of the time after it rains, there are puddles and raindrops on windows left over for a few hours. Often objects are shinier, as water sits on their surface, creating more opportunity for reflection. With this in mind, most leafy surfaces often have an elevated glossiness level.

Adding dark clouds either directly above or in the distance can also imply that it has just rained, or that it is about to. Take time to study the elements that create the mood.

Water marks

Creating water marks on surfaces such as concrete is pretty straightforward and adds a sense of wetness that sometimes people overlook.

I accomplish this by adding darkening streaks to areas saturated with water. You want to maintain the texture of the surface while making it darker. Using overlays in Photoshop works well.

Often you can edit a rust stain texture and apply it to your concrete or wood. When setting up water marks, make sure to take time to test and edit. Sometimes these water marks will turn out looking like stains.

Rain on windows

Rain on a window can not only show that it rained, but also the direction it came from – which helps an image tell a story if it coincides correctly with the clouds.

To achieve this effect I create it in post whenever possible. Otherwise, I create a material that involves transparency, opacity and reflection. This material is then applied to a plane matched to the outside face of a window.

There are many suitable splatter/drip textures available at www.cgtextures.com.

Puddles on the ground

With puddles on the ground, one cannot help but notice that it has just rained. The first step is making your ground uneven by either modelling it or using displacement or noise. (This is not a comprehensive list.)

You can then place planes and apply a water material. By adding drops in the puddle objects you can make it look like it is still raining or that it's dripping from the trees. The drops can be done in 3D, although I prefer to add them in postproduction with overlays.

Adding small puddles to other hard surfaces will also enhance the mood.

This water-marked wall could be used as a texture map or as an overlay in postproduction

Window with water drips. The drip layer blending mode is set to Soft Light

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Let's get furry

"How do I create grass or fur in CINEMA 4D without the HAIR module?"

Grass, rugs, fur and similar surfaces are of course much easier to create using the HAIR module, and if you need that type of surface often, I suggest you save your pennies and buy the module.

You'll probably be surprised by its usefulness for the purpose, especially by the Fur option that can be used for both fur and all sorts of rugs, not to mention the large areas of rather realistic lawns that can be rendered surprisingly quickly.

If, on the other hand, you need surfaces of that kind only occasionally, or if you need high-quality results (for example, the quality and detail of grass that could match the output of high-end landscape-generating software), there wouldn't be much sense in buying and installing the module only for that purpose. Especially if you're not working on a commercial project.

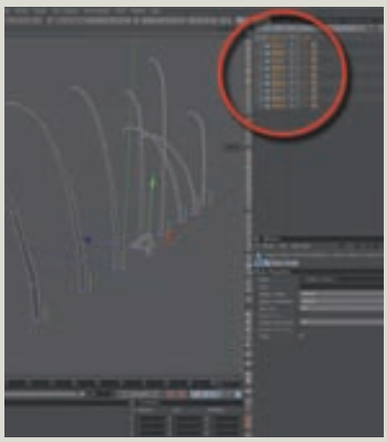
One trick to imitate the effect so it looks okay from a distance is simply to use the SubPoly displacement together with a noisy texture. However, I already explained this technique in a previous tutorial, and besides, it doesn't look very convincing in close shots, so I'll skip it this time.

There's a way to achieve the same or even better results than by using the Fur option in the HAIR module, and that's by using some of the basic CINEMA 4D tools – although if you intend to use them to cover large areas of terrain with grass, I'd recommend the latest (11.5) version of the program as it offers some new enhancements such as the Render Instances, that can reduce both rendering times and the memory requirements. The use of the 64-bit version of CINEMA 4D in a 64-bit environment with lots of additional RAM is also recommended in such cases, especially if you are using a version of the program prior to 11.5.

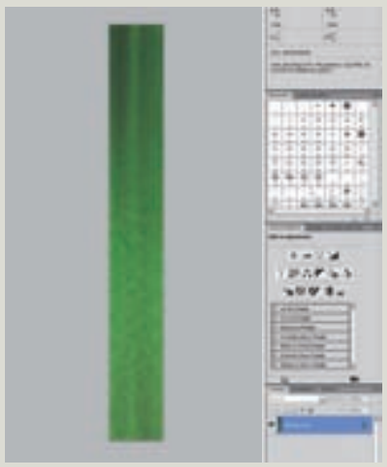
I am going to explain the procedure using grass as an example because this is the most complex element to create. Once you learn how to create grass, you probably won't have any difficulties adapting the procedure to create advanced fur effects, such as wet fur or a detailed, worn-out rug surface or anything similar. We'll create some basic grass geometry first, then we will create an appropriate material using a custom-made texture and apply it to the geometry. Finally, we will replicate the basic grass geometry in order to create clumps and group them in patches that can be further replicated over a much larger surface.

The Backlight shader

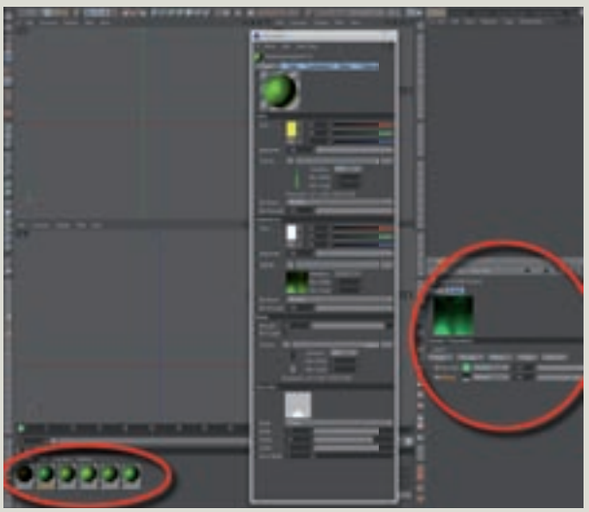
The Backlight shader in CINEMA 4D can be extremely useful when creating materials for leaves or grass, because it simulates the sub-surface scattering on objects that are two-dimensional. The real sub-surface scattering can only be used (ie will have a visible effect) on an object that has got some volume, or thickness. That is the reason it is used inside the Layer shader when creating the C4D material for this tutorial. Since the shader is used in the Luminance channel, it not only improves the realism of the grass but it also generates the correct GI when used in conjunction with the GI rendering engine (Advanced Render). You can prevent this from happening (for example, in order to shorten the rendering times) by unchecking the Generate GI option in the Material settings, under the Illumination tab.



01 Modelling basic grass blades
The grass blade should be simple – 6-12 polygons at the most. Generate a plane object with Y orientation. Set the Width To Height Ratio so that you get a high and narrow plane. Set Width Segments to 1 and Height Segments to a value between 6 and 12. In my experience 8 is a good compromise. Use the Taper deformer to change the form of the blade to a slightly pointed shape, then use the Bend deformer to bend it.



02 Preparing basic texture
Make seven to ten copies (not Instances!) of the blade, change the Bend values and rescale all of them a bit. Now it's time to prepare the grass texture. You can either play in raster software by combining green layers with various amounts of noise, then apply Gaussian Blur, Vertical Motion Blur, etc, or you can simply use a scanner or even a camera with a macro lens on the real thing.



03 Preparing grass materials
Once you have a decent grass texture, make a copy of the file, desaturate it and stretch the contrast to get the bump/transparency texture. Set Colour of a new material to 112, 171, 112, load the colour texture and set the Mix mode to Multiply. In the Luminance channel add the Layer shader and multiply the Backlight shader over the greyscale version of the texture in it. Add the greyscale texture in the Bump channel as well. Subdue the specular a bit.

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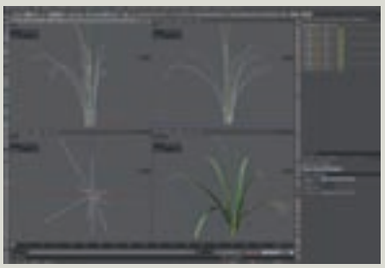
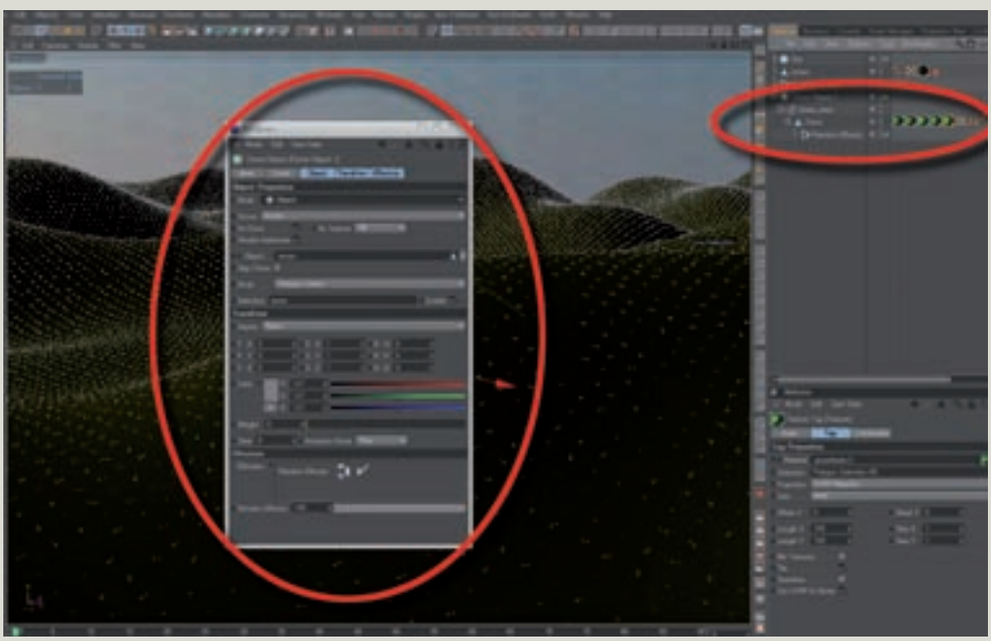


04 Grouping the blades into clumps

Make four to five copies of the material and change their respective Colour values, some to yellow and some to bluish or cyan to achieve colour variation. That's very important if you want to get convincing grass. Drag the materials randomly to the grass blades. Now group together and then Y-rotate the separate blades of grass around a common centre so that you get a clump that looks similar to the one shown in the screengrab.

05 Grouping the clumps into patches

In this phase resist the urge to use the Cloner tool to distribute the clumps all over the terrain, because you might get a grass cover that looks unnatural, plus you might quickly run out of memory despite using the Render Instances. Before the distribution is over the target surface, we must use the Connect function to join the clumps into larger groups – patches of grass – so that every patch represents a single object. Make sure the blades don't intersect first!



06 Populating large areas with patches

Now that you have the grass patch as a single object with textured polygon selections, you can use the Mograph Cloner to distribute the copies of it over any polygonal surface. If you don't have the Mograph module, you can use other distribution tools, a distribution plug-in, or even position the patches manually. Whichever tool you use, make sure the copies are Instances or Render Instances if using the 11.5 or later version of CINEMA 4D.

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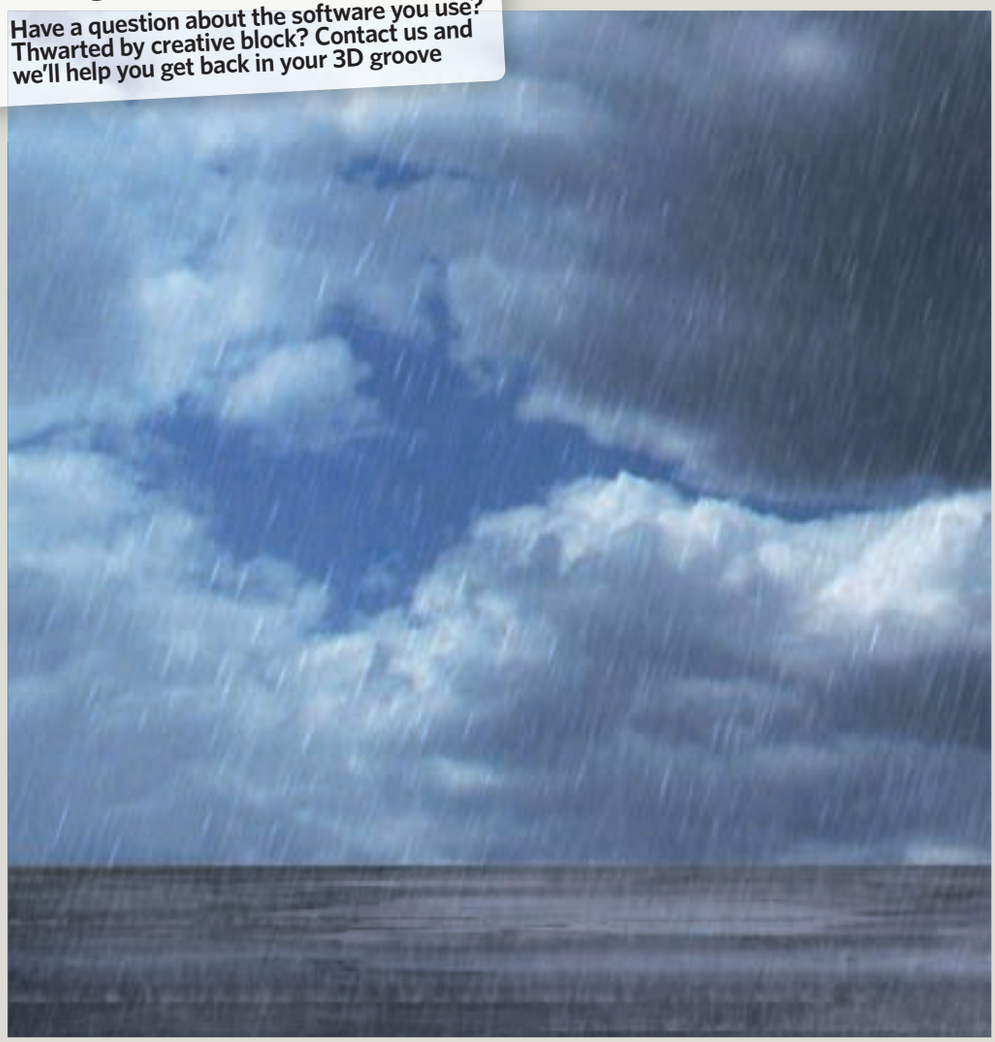


It's raining

"How do I make it look like it's raining in my Vue scenes?"

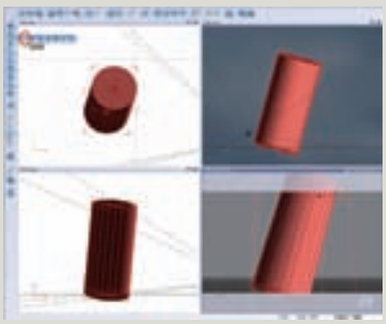
Creating rain in Vue is something that unfortunately isn't built into the atmospheres. Vue has the ability to create lots of atmospheric conditions at the touch of a mouse click, such as fog, haze and cloudy or overcast skies – but falling rain or snow is not achieved as quickly, so you need to build it from scratch.

Fortunately the process is fairly simple and can be achieved just by choosing the right material. There happens to be a transparent rain material additive built into the Special Effects collection. Most objects can be converted to this material, but the cylinder is best as it forms a nice vertical shape. By increasing the scale of the cylinder material the rain will look heavier, and if you increase the transparency or reduce the diffuse lighting, it will give the rain the appearance of motion blur. If you decide to have the rain falling at an angle, make sure you select Object>Standard Space Mapping within the Rain Material editor. This will make the rain follow the same angle as the cylinder.

There are alternative materials that give equally good results. Try using the Water Droplets material also found in the Effects collection. This will give the rain less of a heavy shower look, but could be used as raindrops falling onto windows or into puddles.

Remember that if you're creating a storm you need to slightly change the Material setting of each newly copied cylinder. You could make minor adjustments to the angle or scale of the material.

If you're after an even quicker solution to creating rain, rather than creating it yourself in Vue, try Walther Beck's Bad Weather Expansion Pack 1 at **www.cornucopia3d.com**. This features rain and spray effects to add to your scenes, without the use of cylinders.

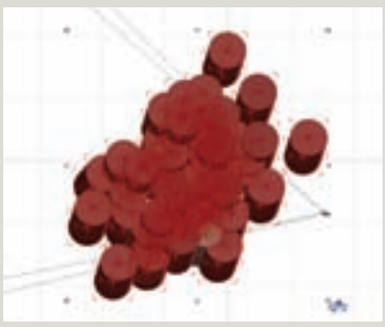


01 Creating the body of the rain

Open a new scene and select an atmosphere, preferably from the Bad Weather collection. Then create a cylinder and position it at the centre of your scene. The cylinder will be used as the body of the rain. Now stretch the cylinder to increase its length. Next, tilt it at the angle you would like the rain to be falling. We now need to change the material of the cylinder.

02 Rain material

Select the cylinder and choose Load Material. From here we have a wide variety of different materials to choose from. Select Rain, found in the Special Effects collection. This will change the material of our cylinder to pouring rain. We can make the rain more or less transparent by going into the Effects tab and adjusting the Diffuse slider.



03 Filling the scene with rain

We now need to duplicate this cylinder to create more rain in the scene. Copy the current cylinder and slightly change its length and lighting settings, but not the angle. Create about seven or eight slightly different cylinders, keeping the same angle and placing them a short distant apart. Now select all the cylinders and copy and paste them a couple of times to fill the scene with rain.

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3DArtist

Back to basics

Rob Redman, 3D artist and trainer, will be guiding you through modelling methods

A

Master modelling

> Modelling is the process of building a three-dimensional shape, ready for textures to be applied, then lit and finally rendered

This issue we will be taking a look at modelling in 3D and some of the different methods that can be used. We'll look at some of the reasons we might choose to model in a certain way. Finally, we'll walk through building a model, combining some of these methods. By the end you should have some understanding of how to choose the best workflow for the project you are working on and why these choices are important.

Choose a method

Modelling is the process of building a three-dimensional shape, ready for textures to be applied, then lit and finally rendered. But how do you decide on a method for building your model? What methods are available and why should you use one over another? Let's start with an overview of the most common methods, but keep in mind that there are other ways; it just happens that these are the most used and generally most useful. First off let's tackle box modelling. This is the easiest to understand, if not master, and has many uses. Modelling

A This scene was built using a combination of box and spline modelling

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B This scene was built using a mixture of splines and polygon modelling

usually begins with a primitive object, such as a sphere, torus or cube (hence the name), and various tools are applied to define shapes and details. The tools used will be specific to the project, but there are some that you'll find invaluable.

Extrude – this tool lets you select a face/polygon and then pull this face out to create more geometry to work with. For a very basic example imagine a cube divided into three polygons per face. This could be a characters' body. If you then selected the centre polygons on two opposite sides, you could extrude them to start the arms. This can be repeated to add wrists and the base of the hands. Obviously this is very basic, but it should give you the idea.

Bevel – this works in a similar way to extrude with one main difference: the extruded face will be smaller than the original. This can be very useful at a small scale. If you look around you will find it almost impossible to find a perfectly sharp edge. Even crisp square objects will have a slight bevel to them. The Bevel tool lets you easily add these edges. Renders where objects have a tiny bevel on the edges will look much more realistic, with the small edges for lights to glint off.

Now, these tools are possibly (along with move, scale and rotate) the most useful out of a large assortment, so dig into the menus and try out all the options.

Spline modelling

Now let's look at spline modelling. Splines are basically paths that you can draw in 3D space. They will not render on their own, so you need to combine them to produce renderable geometry. There are a few ways of combining these splines: sweep, lathe and extrude, among others. A simple example of a sweep could be a pipe or tube. Combined under a sweep nurbs object, one spline would be a circle (the profile), while the other would be a line (the pipe's length).

With Lathes, draw the cross section of half an object and put it under a lathe nurbs. This revolves the spline around the centre axis, leaving you with the geometry.

Extruding a spline is similar to a sweep, but you only need the profile spline – which you set a length for – to create the geometry. The main benefit to using splines is that they can remain editable, so you have much more control over the objects they form. If you had a pipe following the walls of a room but the room design changed, you could tweak the points of the path spline to match the new room shape (it's easier than rebuilding using polygons).

There's also a selection of primitive splines, such as stars, gears and flowers. Spline objects also have controls for type and level of subdivision, allowing you to control the smoothing. A spline object can be converted easily into polygon objects, should you need to either add geometry or export the model to another program.

Hitting the 'v' key opens the floating menus, one of which houses the spline tools. There isn't room in these pages to cover them all, but experiment and see what they do. We will be using the Chamfer command to round off the corners.

Test the tools

What we have covered so far are the basics of modelling tools. There are many others, from tools that let you connect geometry to ones that reduce or split geometry. Others are for selecting polygons, edges or points in various ways. I recommend diving in and seeing what everything does.

One more distinction between splines and polygons is the components you can manipulate. A polygon can be manipulated as a whole, by face, edge or point. This makes it easy to tweak. But splines can only be selected as a whole or at point level, using the points you add as you draw your spline.

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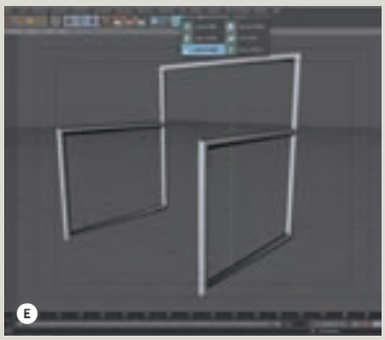
3DArtist Back to basics

C

D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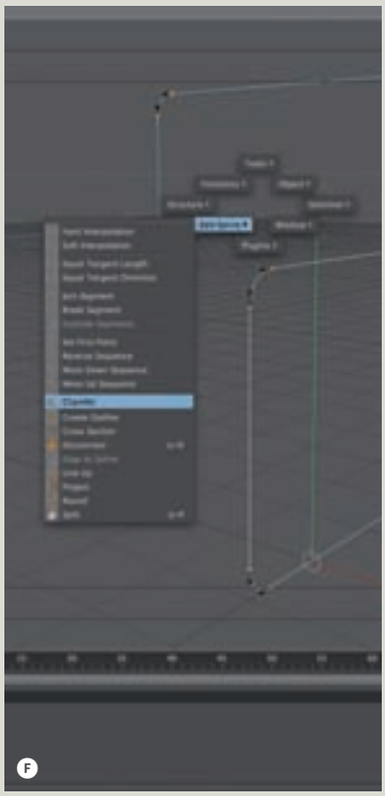
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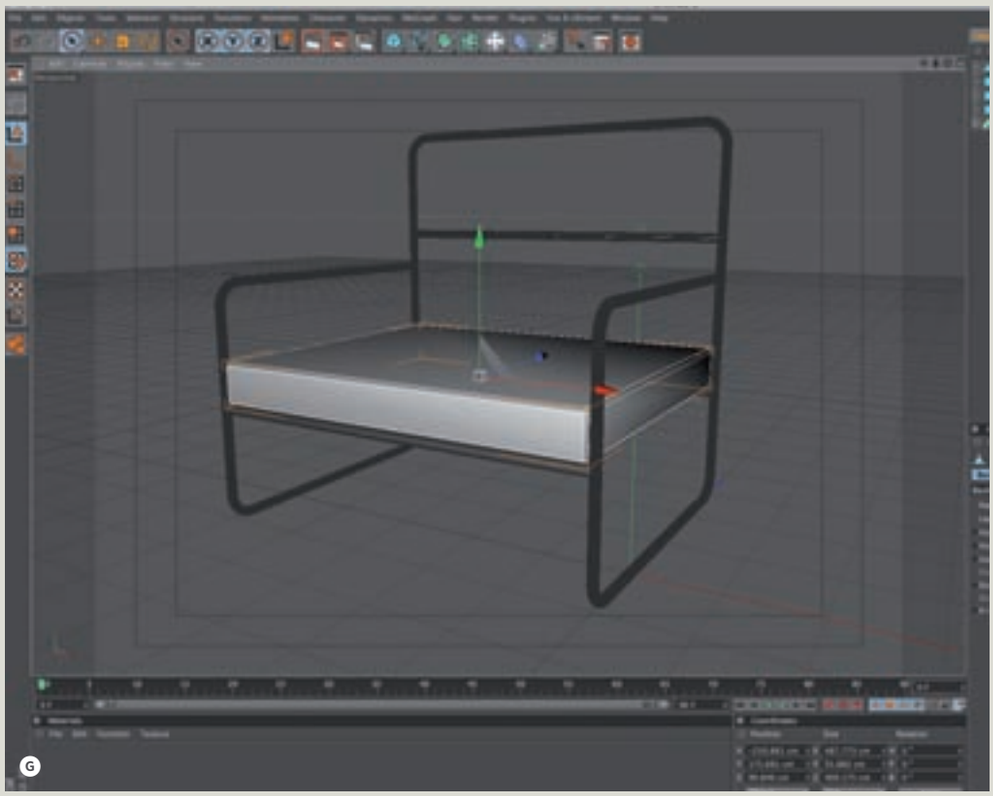
G

C The 'P' key opens up the snapping options menu

D Choose the linear spline and draw the shape using the different views

E Drop your two splines under a sweep nurbs to create the frame object

F Use the Chamfer tool to round off the sharp corners

G Add the cross members and base cushion, and move into place

Model a chair using splines and boxes in CINEMA 4D

01 Prepare your scene

Open a new scene, hit 'P' and select 2.5D Snapping. This will keep the spline even by snapping to the grid. Click the middle mouse button to go into four views. You need this to draw the spline for the frame, as it travels across all three axis C.

02 Click the corners

Choose splines/linear and, starting in the side view, click at each corner of the frame. We'll round this off later. When you need to go across the chair swap to the front or top view. When you get to the last point hit the Spacebar to drop the tool D.

03 Create circle splines

Add a circle spline and resize it to how thick you want your frame. Then add a sweep nurbs. Take your frame and circle splines and make them a child of the nurbs, with the circle above the frame E.

04 Round off the corners

Click the tick next to the sweep nurbs to make point selecting easier. Select all but the first and last points of the frame spline. Hit 'V' and choose 'Edit spline/chamfer'. Drag in the viewport to round off the sharp corners. Choose an amount you like or set an amount in the Attributes Manager F.

05 Add a cube

You can add cross members using the same process, or you can use cylinders with the same radius as the circle spline. Line these up underneath where you want the base cushion to go. Add a cube to the scene and size to fit the frame. In the Attributes Manager give it a small fillet, with one segment. Press 'C' to make it editable G.

06 Work with polygons

Click on the Polygon mode icon to the left of the main viewports, as we will now be

Shortcuts

CINEMA 4D gives you a variety of ways to access different tools, but it is definitely worth learning the shortcuts – at least for your most commonly used tools. Simply press the 'V' key with your cursor over the viewport and you will see a set of menus appear. You can either use this as a shortcut or, if you open up a menu, you will see that next to each command there's a keyboard shortcut. It's also worth noting that in this menu set is a Spline Tool menu, which you don't see in the menu bar as standard. So get into the habit of using these shortcuts and you're guaranteed to speed your work up hugely.

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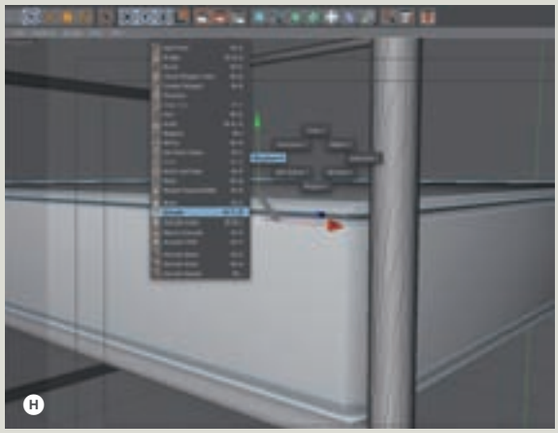
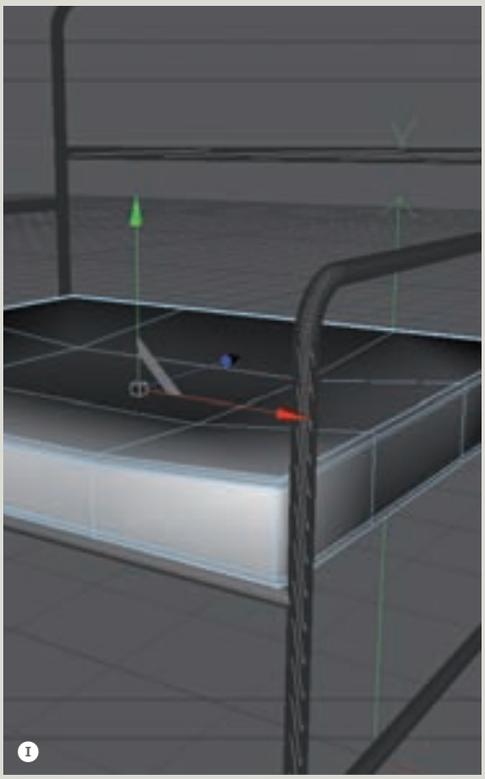
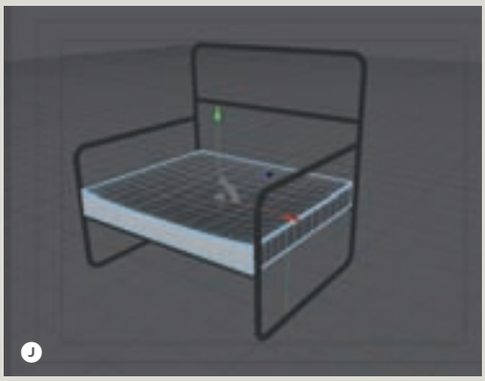
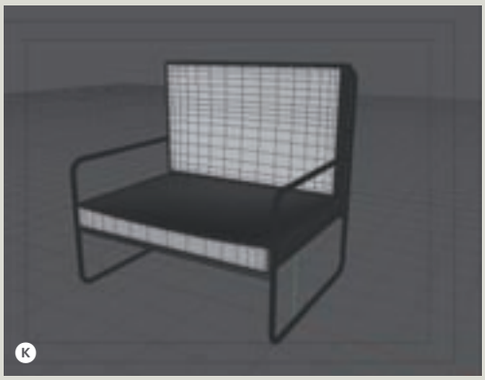
References and scale

Although we haven't used real-world scale here, it is still worth using. Try to model to a real-world scale where possible; this makes it easier to re-use objects from scene to scene. The other benefit is that it will really pay off if you use reference material. For example, when modelling a real-world sofa, you can take photos or plans and use them in the background of your views (viewport menu/configure). Measure one part of the real object and set the reference accordingly. It's much easier than guessing.









H Adding the piped seams to the base cushion with the inner extrude and extrude tools

I Shape the cushion into something a bit less uniform

J Smooth off the cushion with a hypernurbs object

K The duplicated cushion, moved into position as a back

L Use these techniques to build a room to house your chair

working with polygons. Choose the Selection tool from the main toolbar. Select the filleted polygons around the top and bottom of the cushion. Hit 'V' and choose 'structure/inner extrude' and drag to the left to create a thinner loop. Now hit 'V' and choose 'structure/extrude' and pull out two extrusions. These will be the piped seams of the chair, so judge the size to suit your model H.

07 Add some cuts

Next we'll add some cuts to the cushion so we can push parts down to replicate the effect of it being used. Little variations in a mesh can really sell a scene. Still in polygon mode, hit 'K' to activate the Knife tool. In the Attributes Manager set the mode to Loop. Two cuts, set equally, across the z and the x axis should be enough. Now select the top centre polygon and/or the top front and hit 'E' for the Move tool. Now pull them down a little I.

08 Smooth the corners

Go to the Nurbs menu and this time add a hypernurbs to the scene. Make the cushion a child of the nurbs object to smooth the hard edges. You will see that the corners don't quite look right, so use the Knife tool again to add cuts across the x and z axis. Keep the cuts close to the edges to tighten up the nurbs. You can click the tick next to the nurbs object to deactivate it. This will make placing your cuts easier J.

09 Duplicate hypernurbs

Now we need to create the back cushion. You could follow the previous steps, but a lot of the work has already be done so let's make use of it. In the Object Manager, Control-click and drag on the hypernurbs to make a duplicate of them. It's worth renaming them now for ease of selection later. Not necessarily a big problem here, but in a big scene it's a must. Now, in Object mode, select the back cushion and use the Move, Scale and Rotate tools to move it into position K.

10 Now it's your turn...

The tools used here are a very small selection of the tools available, but they will get you up and running with splines and polygons. Now that you have the basics try modelling objects of your own design. Start with the built-in primitive objects, make them editable with the 'C' key and build away. Try making more furniture and fittings and finish off with a room to house them all. We haven't talked about texturing or lighting, but see the lighting tutorial in the last issue to get started. We'll cover texturing in the future L.

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Maya is used in much of the animation you see on the big and small screen. Image courtesy of the Movie Picture Company

Maya Animation Suite 2010 $3,495 US

It's what's outside that counts in the latest version of Maya

As far as TV and film production goes, there are a few 3D packages around. Max and LightWave get used a lot, and CINEMA 4D and Softimage pop up less frequently. But Maya is the big one. It's responsible for a good chunk of the 3D work you see on the small screen and there's barely a Hollywood movie produced that doesn't feature some use of Maya.

The package has always had a good set of the latest modelling tools. Subdivision surfaces are easy to master and flexible, animation tools are some of the best around (particularly for character animation where Motion Builder is provided as a separate package), lighting is realistic and highly usable, and rendering is usually done in Mental Ray. The package is excellent at handling huge scenes and adaptable enough to fit into most studios.

In Maya 2010, the way the program is sold has changed – Maya Complete is no longer offered. Instead, there's now just one version of the package – including everything you would have got previously in Maya Unlimited. The price tag is somewhere between that of Complete and Unlimited, which will please or disappoint you depending on which version you're used to.

Maya 2010 itself isn't a great step forward from the 2009 version. It's got a few tweaks, such as workflows for creating stereoscopic 3D scenes. There's also a good range of new tutorials and example files, but that's about it; there's nothing that's really going to knock anyone's socks off.

The big news in Maya 2010 is not the updated features of the package itself, but the extras bundled with it. For a start, Maya now includes MatchMover – an excellent 3D tracker that allows you to capture the movement of a camera from a video shot and create animation for an identical camera in Maya, so you can place 3D objects into shot video regardless of how the camera is moving through your footage. It's easy to use in automatic mode, but it also includes manual tools for more difficult shots.

MatchMover also has the ability to take footage from two cameras recording the same object and use them to capture motion, so you can translate the movement of real actors onto characters animated in Maya.

The Maya package now also includes a copy of Toxik – a pretty decent compositing package that uses an easily grasped flowchart system to allow you to combine your 3D elements with shot video to create a finished shot. As compositors go, Toxik is good at what it does – which is working with high-resolution images quickly, colour correcting, keying and combining the render

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The good & the bad

- ✓ A good set of modelling animation and rendering tools included
- ✓ Useful compositing package
- ✓ Robust 3D tracking and motion capture
- ✗ Not much new in the main package
- ✗ Expensive

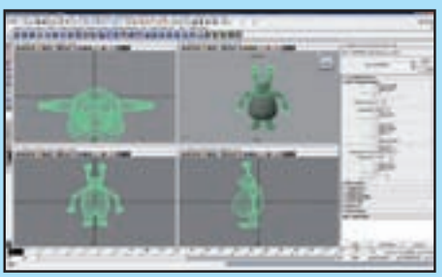
Essential info

www.autodesk.com
$3,495 US

OPERATING SYSTEMS
- Vista, XP (SP2), Red Hat Enterprise Linux 5.3, Fedora 8.
- Mac OS 10.5.7 (32-bit version only)

OPTIMAL SYSTEM REQUIREMENTS (PC)
- AMD Athlon 64 or AMD Opteron processor
- 2GB RAM minimum
- Hardware accelerated openGL graphics card
- Three-button mouse is recommended

Handling big, high-polygon scenes is one of Maya's specialities. Image courtesy of Movie Picture Company



Version 2010 changes next to nothing in the main package

passes of 3D objects. However, it's not as flexible as, say, After Effects. It has no particle system, offers basic rotoscoping tools and doesn't have the sophistication of text animation features that you might expect in a more rounded package.

In short, this is a tool well tuned to 3D compositing work, which has a professional feel to it and is a pleasure to work with. But it's not a fully featured compositor, and lacks some of the tools of Combustion (the package it replaced in the Autodesk lineup). Finally, Maya 2010 adds BackBurner – the standard Autodesk batch rendering package. BackBurner has been a part of 3ds Max for years and, although it's got its idiosyncrasies, it allows you to render on multiple machines over a network with a single licence, managing multiple scenes easily and allowing even an inexperienced networker to set up a render farm and make use of all those retired PCs.

All in all, the Maya Animation Suite 2010 takes the easy upgrade route of simply adding more packages to the existing bundle without actually changing anything much in the programming itself. However, it's no less valuable for that.

Our verdict

Features	8/10
Ease of use	7/10
Quality of results	9/10
Value for money	7/10

> "Little change to the main product, but a great box of extras"

Final Score 8/10

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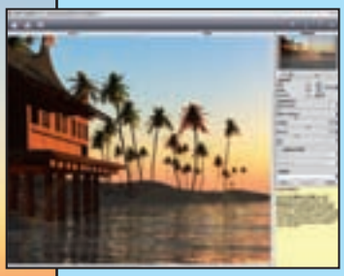
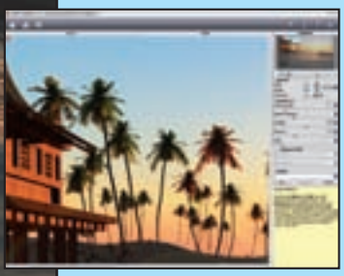
AKVIS Magnifier v3 $122, €99

Don't let sub-standard hardware get in the way of creating hi-res renders

Either load or drag and drop an image onto the main screen to start the process



Enter the New Size information and the image will be updated. Click on the image to toggle back and forth



If the edges blur, increase the Sharpen Edges parameter; if too soft add grain

Given the choice, we'd all knock out A3, 300dpi, print-ready renders for that unexpected phone call from a major agency, but the truth is resolution costs rendering time. Resolution demands bigger res textures, a more powerful machine, more RAM – and invariably a system crash. Using software to increase the resolution of your modest spec render is an alternative, but there are limits to what Photoshop and PSPP can do.

Enter specialist software Magnifier, whose job is to increase the res and nothing else. You can install it as a standalone app or plug-in, then click on Open Image or drag and drop one into the main window to start.

In the New Size box the image can be increased in terms of pure pixels, by measurement and dpi or as a percentage. The image in the centre then updates to the new resolution using the Parameter settings. Clicking on the image itself or the scroll bars on the side toggles back to the original image, which, because you're now zoomed in at 100% of the new image, shows how jagged it would be. The parameters are used to alter the sharpness and smoothness of the edges, how much detail is smoothed out, how thin lines are dealt with and whether any grain is used.

The basics of this are that the more interpolation is used, the softer and smoother the image will be. The sharpness, grain and an Unsharp Mask function can be used to put detail and bite back into the image. A lot depends on the quality of the original, as a good quality TIFF will work better than a compressed JPEG. Also, the image type plays a part. A simpler image with solid colour will work incredibly well, because Magnifier is very good at smoothing the edges of objects and avoiding jaggies. Where it isn't so good is with thin lines that inevitably become jagged. It can, however, thicken them up and smooth them out if you tweak the parameters.

From a good quality original you can usually double the size and get a decent quality result – more so if it features buildings, less so on textured areas. If you find it's too soft then the Unsharp Mask will increase contrast, but again, the results can start getting painterly. In this case you can either scale back the sizing, or if you really need it that big, introduce the Grain feature that adds a layer of grit in lieu of actual detail. Used well, this can help bolster an image.

Finally, presets can be saved so you can save settings for specific types of images. Interpolating images is never going to give you as good a result as rendering it that size in the first place, but Magnifier does an impressive job of being the next best thing.

> "From a good quality original you can usually double the size and get a decent quality result"

www.akvis.com

Our verdict

Features	8/10
Ease of use	9/10
Quality of results	8/10
Value for money	8/10

> "Does an impressive job of squeezing a bit more resolution out of your render"

Final Score 8/10

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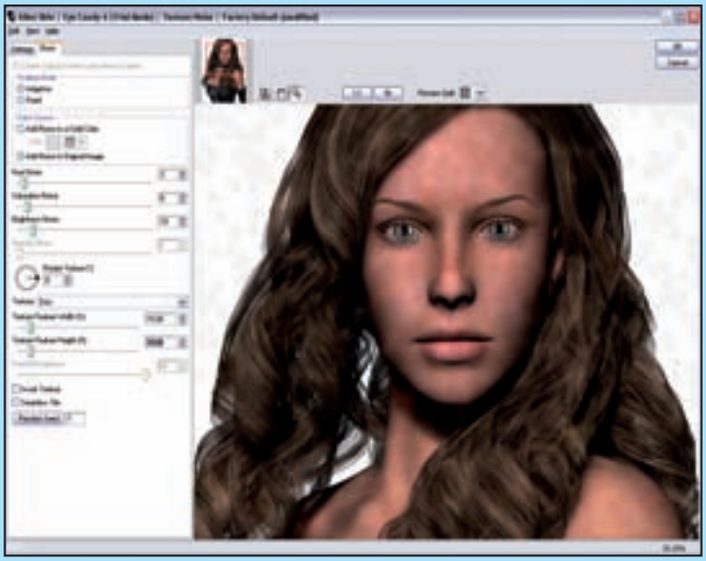
Eye Candy 6 $249

Give your textures a new lease of life with the ultimate texture manipulation package



Available as a plug-in for Corel's PSP or the Adobe Photoshop range, Eye Candy 6 is the latest in a line of special effect plug-ins from Alien Skin Software. Once installed the plug-ins are split into two categories: Textures and Text Effects. The latter produce all manner of automated effects to jazz up your logos or create distressed versions, which are then ideal for incorporating into renders. Each filter has three tabs offering control, starting with colour and opacity. There's a tab named Settings which contains a generous list of presets, but it's the tab called Basic where you can take control and tinker with the settings.

The textures are interesting in that there are a number that are fur based, so creating the texture and adding it to an object can certainly save time and memory for mid to background items that need a furry surface but don't need to be seen in close-up. There are some filters that are basically special effects, like splattering water or other liquid distortion, but most are orientated to texture creation. Combine those with the text effects, and you have a system that could save time and make renders easier.

www.alienskin.com

Our verdict

Features	7/10
Ease of use	9/10
Quality of results	7/10
Value for money	8/10

"Definitely more on the text and texture side than outright special effects, but a good package"

Final Score 8/10

Luxology Gallery Viewer Free

The perfect way to view modo artwork on your iDevice

If you are the kind of CGI junkie who can't bear to be parted from shiny artwork for more than a couple of hours, and especially if you're a devoted modo user, then Luxology has an app that's just right for you.

The Gallery Viewer does what it says on the tin. It presents an easy way for iPhone and iPod Touch users to view the contents of the Luxology modo gallery. You can, of course, just use a web browser, and if sitting at a computer that's obviously the best way to do it, but the Gallery app does it much better than a browser on small devices. It offers the option to search for types of images, categorises them and allows them to be tagged as favourites for viewing later. It's just a pity that you can't set favourite images as the iPhone/iPod background image. What's handy is the way that descriptions can be scrolled right next to thumbnails of the image, without scrolling the entire page. It's also quick to display the artwork, and there are some nice pieces on there.

Hardly essential, the Gallery Viewer is a good application for modo enthusiasts or those wanting to show off CGI to their friends.

www.luxology.com

Our verdict

Features	5/10
Ease of use	8/10
Quality of results	8/10
Value for money	8/10

"This free viewer for the Luxology Gallery is well implemented though hardly essential"

Final Score 7/10

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PORTRAITS
A range of artists showcase examples of the finest 3D portraiture

D'Artiste: Character Modelling 3 £54.49

Three character modellers share their secrets

info

EDITOR
● Daniel Wade
PRICE
● £54.49
PUBLISHER
● Ballistic Publishing
ISBN NUMBER
● 978-1921002-67-0

Ballistic books are always a visual treat, but they rarely earn themselves a place on the shelves instead of the coffee table. The D'Artiste imprint is slightly different. As ever it's a glossy collection of artwork, but this series concentrates on particular disciplines within digital art and selects several artists at the top of their game to showcase their work and, more important, talk about their working methodologies.

There are three 3D artists specialising in character modelling in this latest D'Artiste book, predictably titled Character Modelling 3 – Jan-Bart Van Beek Cesar Dacol Junior and Giovanni Nakpil. Each works in a different way, which makes the tutorials included in the D'Artiste series really interesting in this case – you learn how each of these artists approaches their task. Between them their credits include the movies Killzone 2, the Fantastic Four, Indiana Jones and the Crystal Skull and Pirates of the Caribbean 2, so you're guaranteed that they know what they're talking about. And they demonstrate this too, in a range of tutorials, images, invited artist galleries and behind-the-scenes working practises. Of these we found Giovanni Nakpil's the most interesting. Classically trained, he sculpts models in clay at his concept sketching stage, getting an idea of how a creature exists in physical space and studying its stance and centre of balance. This makes his final renders look more realistic, and it's certainly something different from the run of the mill 3D designs that we often see.

Elsewhere, Cesar Dacol Junior's sinuous fantasy creature designs are a delight, as are Jan-Bart Van Beek's character concepts for the game Killzone 2. All three artists showcase very different styles and approaches, even though they may use the same software and work on similar projects such as sci-fi and fantasy based movies and games.

They're not the only artists in the book however – there is also an invited artist gallery selected by each featured artist, which showcases a wide range of work in character modelling, from creatures to people. Like most art books of this ilk, fantasy females are over-represented on these pages, but they still showcase some pretty amazing work. Unlike most Ballistic books then this isn't merely eye candy, but then it's not a fully-fledged tutorial book either – it's something in-between.

MODELLING
Cesar Dacol Junior discusses creature modelling when creating fantasy beasts

SKETCHING IN CLAY
Giovanni Nakpil demonstrates how he starts off concepts in clay

CHARACTER DESIGN
Jan-Bart Van Beek demonstrates his character models for Killzone 2

TUTORIALS
You can follow tutorials from each artist to discover how they create their work

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London in 3D £12.99

A look back in time – with stereoscopic vision

If you're often accused of having your nose in a book then this is an ideal one for you. It's a collection of Victorian and Edwardian stereoscopic photos. Two are displayed on each page; by looking at them with a slightly unfocused gaze you can make them appear 3D. To help you out, the front cover of the book unfolds into a viewer; complete with a lens for each eye and a hole to stick your nose through so you can get closer to the action. You look a bit silly doing so, obviously, but once you get the hang of viewing this primitive form of 3D then it's pretty easy to use.

This is a nice, well-designed little coffee table book for 3D enthusiasts who are interested in the history of the medium, and the photos themselves produce fascinating dioramas when viewed properly – foreground details seem to float over the background.

STEREOSCOPIC VISION
Use the viewer at the front of the book to view the photos in 3D

SEE THE SIGHTS
The sights of Victorian tourist London are faithfully recorded in 3D photos

DETAILED SHOTS
History buffs can also look at the photos individually to see details of Victorian scenes

info

EDITOR
● Josh Rosenberg

PRICE
● £12.99

PUBLISHER
● Voyageur Press

ISBN NUMBER
● 978-0-7603-3726-4

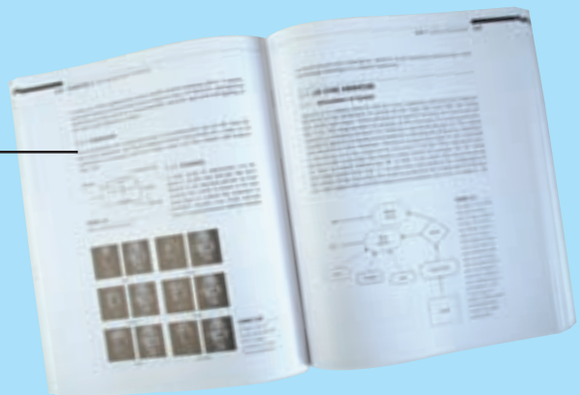
Computer Animation Complete £37.99

An all-in-one guide for 3D beginners

Elsevier's Morgan Kaufmann imprint does a nice line in animation and 3D books, but if you're new to the industry, this collected all-in-one edition of tutorials could be ideal.

The skill sets it covers range from motion capture and facial modelling to particle-based gases, clouds and liquid effects as well as creating and using space and perspective to create believable environments. The book also introduces the background knowledge from maths and science that's vital in creating accurate 3D, which you may not have covered in creative courses or if you've approached 3D from another discipline like visual arts.

A range of different tutorial authors keep the book's style reasonably lively, and its mixed-bag approach means that you can dip in and out of content to find what you need. An excellent reference resource for newcomers, before you decide what your 3D specialism will be.



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Learn the basics of modelling facial expressions

FLUIDS AND GASES
Get to grips with particle physics to model fluids and fog

MOTION CAPTURE
Discover how a mo-cap rig works and how it's used to record an actor's movement

info

AUTHORS
● Various

PRICE
● £37.99

PUBLISHER
● Morgan Kaufmann

ISBN NUMBER
● 978-0-12-375078-5

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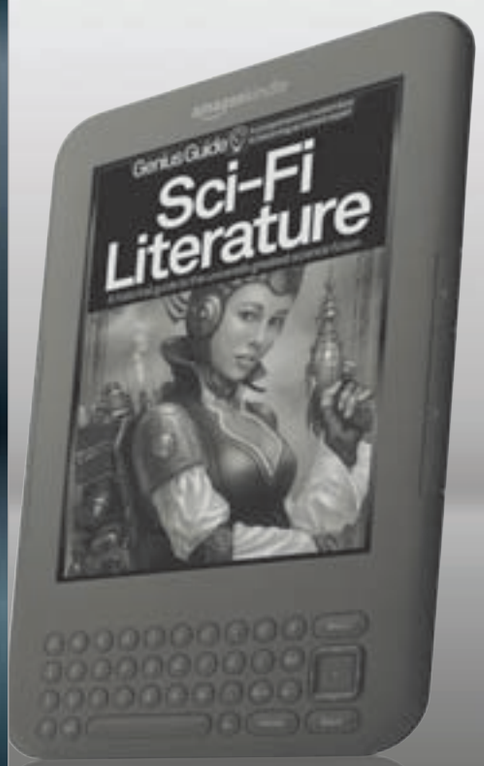

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Inside guide to industry news, studios, expert opinion and education

> When nearing completion the days get more complicated – unwrapping the low-res geometry, extracting normals, ambient occlusion maps, creating a diffuse map and spec map

Abraham Valdez, Character artist, Vicious Cycle Software, on the tasks faced when a project is heading for conclusion. Page 102

102 Insider interview

Abraham Valdez

Want to know what a character designer for a games company has to do every day and how you can get a job like this? Check out the work of Abraham Valdez at Vicious Cycle Software

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All the latest hardware and software launched at the Consumer Electronics Show in Vegas. This and all the rest of the news from the 3D industry

104 Uni Focus

Vancouver Film School, Canada

What gives VFS the edge is dedication to providing students with a studio environment in which they can work with industry leaders while creating their exemplary show reels

inside

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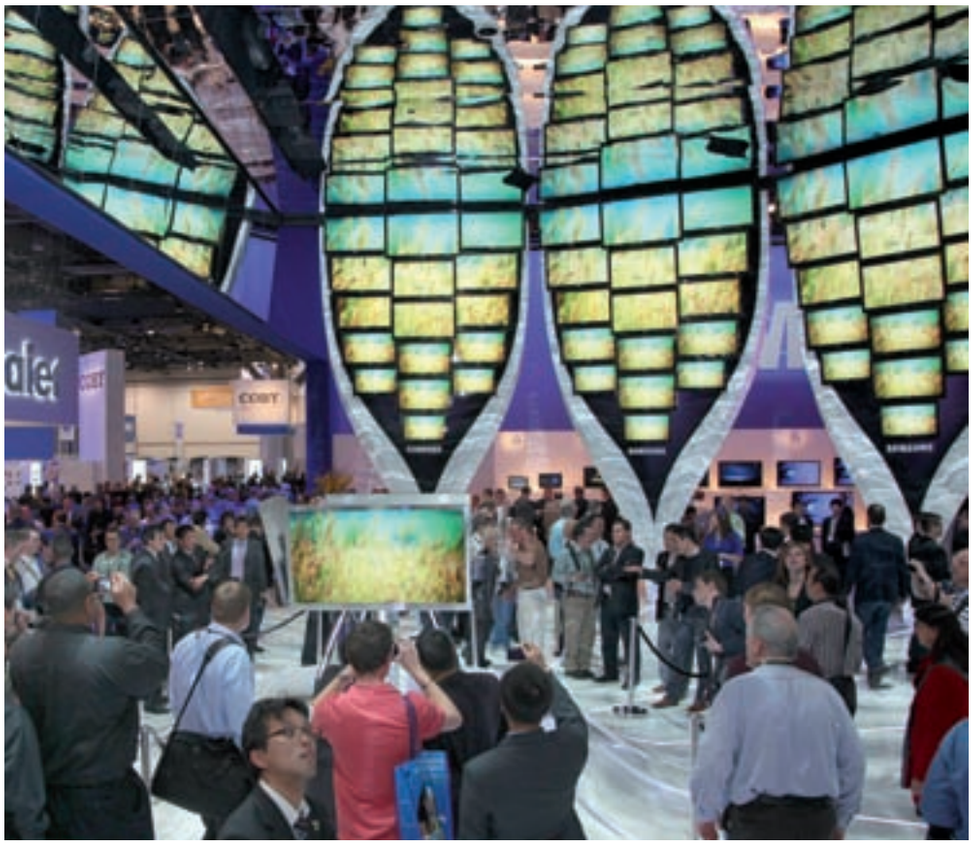
CES goes stereoscopic!

120,000 pairs of eyes all craving to be deceived as the world unveiled its technology for a new decade



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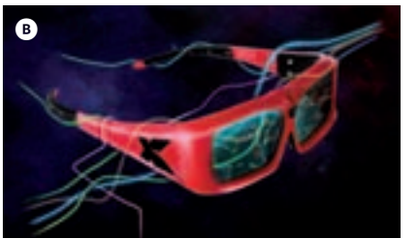

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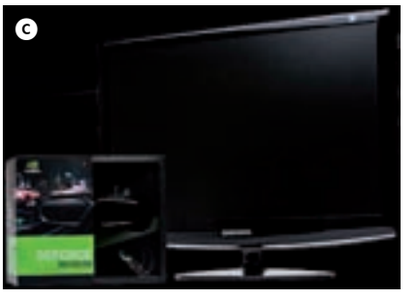

C

D

A CES attendees flood the hallway of the Grand Lobby in the Las Vegas Convention Center

B XpanD's Active Glasses come in a variety of colours and have been tailored to suit the diverse needs of their customers

C NVIDIA offers 3D Vision bundles on its website: **www.nvidia.com**

D Excited attendees fill the aisles of the Central Hall

Hot on *Avatar*'s tail, the International CES – Consumer Electronics Show – recently held in Las Vegas gave the world a stereoscopic look at the technology to come this year, revealing all the hot industry trends for 2010. With 2,500 companies unveiling everything from computer hardware, software and accessories, to electronic gaming and home entertainment solutions, there was plenty to inspire their technologically hungry audience.

The hype was all about 3D this year, and full line-up of home theatre solutions was on proud display by all the major TV manufacturers. With the likelihood that fully functional 3D-capable displays are still around three years away, to plunge into the third dimension now we'll need to get our 3D glasses on. These were big news at CES 2010, with companies like XpanD (www.xpandcinema.com) and iZ3D Inc (www.iz3d.com) showcasing ranges that give every 3D enthusiast something to suit their own tastes. "The consumer market has always been about cool new products, and the 3D revolution will be that on a huge scale," said Maria Costeira, CEO of XpanD. "3D is going to become an integral part of cinema, home theatre and gaming."

For PC users and Blu-ray fans out there who can't wait to reap the visual rewards of 3D gaming and movies, NVIDIA (www.nvidia.com) led the way at CES with the announcement of its NVIDIA 3D Vision hardware, including the world's first consumer multi-display 3D solution for gamers, allowing them to span 3D content across three HD monitors. For the best platform setup, NVIDIA recommends PCs based on GeForce GPUs along with the NVIDIA 3D Vision hardware and software ecosystem, which will give users all-round PC entertainment, including Blu-ray 3D movies, games and photos, as well as web experiences. There will be 3D games for PCs, such as *Avatar: The Game*, *Need For Speed*, and many others.

CES 2011 is planned for 6-9 January 2011 in Las Vegas. For more information on CES, visit the website at: **www.cesweb.org**.

> "3D is going to become an integral part of cinema, home theatre and gaming"

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Cinesite launches annual internship for graduates

Award-winning VFX company offers invaluable experience to work alongside some of the industry's best

E *Harry Potter And The Half Blood Prince* is just one of the credits to Cinesite's portfolio

Cinesite houses one of Europe's largest and most comprehensive facilities with a team of visual effects artists who turn filmmakers' ideas into stunning cinematic reality, and they are offering you the chance to work with them.

With credits including *The Golden Compass* and *X-Men Origins: Wolverine*, and a current project list comprising of *The Chronicles Of Narnia: The Voyage Of The Dawn Treader*, *Prince Of Persia: The Sands Of Time*, and *Clash Of The Titans*, there is no doubt that when Cinesite opens its Soho doors to one lucky graduate this summer through the Inspire Programme, it will be popular with students far and wide. Those interested in compositing, lighting, texturing, effects, modelling and animation for movies, who are looking to gain that first step in the industry will be fighting it out for this rare opportunity.

Cinesite is offering this internship to graduates who finish university prior to the summer of 2010 with a relevant qualification. Artists are invited to submit a three-minute showreel of their work before 2 April 2010, and the winning applicant will receive a six-week paid placement at Cinesite's facilities, where they'll work with experienced professionals on blockbuster titles!

Quentin Miles, animation director at Cinesite, says: "Graduates can expect to get hands-on with the projects we're working on while being mentored by our VFX team. They can also expect to be part of a dynamic environment that's all about team sprit."

Interested? Request an application at www.cinesite.com/internships.

> "The winning applicant will receive a six-week paid placement at Cinesite's facilities where they will work on blockbuster titles"

Turtle now supports Maya 2010

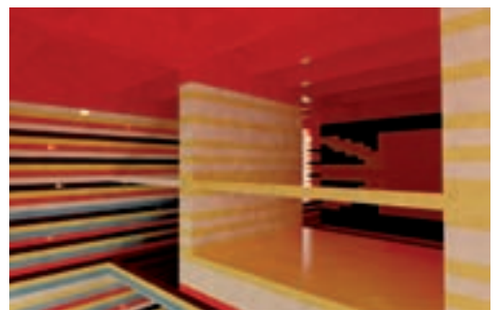
Swedish headquartered Illuminate Labs proudly releases Turtle 5.1 for the games industry

Turtle 5.1 is the newest release of the rendering and baking plug-in for lighting and content creation in next-gen game development.

Version 5.1 is based on the core lighting technology, LiquidLight, and includes several new features that will not only boost productivity in the games studio, but also visual quality. Artists can easily bake stunning global illumination for game levels into texture maps, vertex maps, or point clouds, as well as offering them the fantastic feature of occlusion and normal map-baking from high detailed models to low poly ones. It's this combination of GI and baking tools that sets Turtle 5.1 up as a great fit for game developers using Maya.

"Titles like *Dante's Inferno*, *Dragon Age: Origins*, *EVE Online* and *God Of War III* prove Turtle to be a lighting tool that any Maya game studio should consider," says Magnus Wennerholm, CEO.

You can download a trial of Turtle 5.1 from the Illuminate Labs website: www.illuminatelabs.com.



modo does Lego

Architects use modo to visualise a full-size house built entirely from Lego bricks

Barnaby Gunning Architects sought help from modo 401 when the company was asked to model a house out of Lego for BBC's *James May's Toy Stories*.

Gunning had two weeks to turn nearly 3 million Lego bricks into a physical structure. And that's where modo 401 came in: using Luxology's software, Gunning was able to create a virtual set of the Lego build. "modo gave us a feel for the material quality of Lego as a large scale building material way before we were actually able to put any of the components together. It made it easy for us to explain what we needed doing and to keep tabs on the number of bricks," Gunning said in a recent interview.

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Industry insider

Abraham Valdez

Character artist, Vicious Cycle

Each issue, 3D Artist finds out how the top people in the 3D industry got their jobs and what you need to know to get a foot in the door

About the insider

Job Character artist

Education Associates in Computer Animation (Honor roll), Art Institute Ft Lauderdale

Company website www.viciouscycleinc.com

Personal website www.abrahamvaldez.com

Biography I was born in Brooklyn, New York. I landed my first 3D job doing broadcast work. Soon after, I worked at Shadows in Darkness as an animator/modeller but it wasn't until I became a character artist that I found my niche. I am consistently trying to develop my skills and waiting for the thrill of the next milestone model

Born in Brooklyn, New York, Abraham Valdez showed his artistic talents at an early age, winning a photography contest in the *New York Post*, beating off 250,000 other entries. His artwork also featured in a calendar with pieces from around the world. This artistic flair led him to study traditional art at college, but his professional life soon took him in the direction of 3D. Now he's a character artist for Vicious Cycle Software in New York. What does this normally entail on a day-to-day basis? After a concept has been created and handed to Abraham, he blocks in the shape and makes sure the proportions are lined up to the concept. From this rough model the daily routine mostly involves refining the model.

3D Artist: *How complex does the work get as projects head towards completion?*
Abraham Valdez: When nearing completion the days get more complicated – unwrapping the low-res geometry, extracting normals, ambient occlusion maps, creating a diffuse map and specular map. Occasionally we rig our models as well. If at all possible, I try to divide my time evenly between modelling and texturing.

3DA: *What kind of training, or course at university, did you do?*
AV: We had various courses in different applications, from learning website development to print advertising to 3D animation. My first interest was animation and I found myself leaning heavily in that direction.

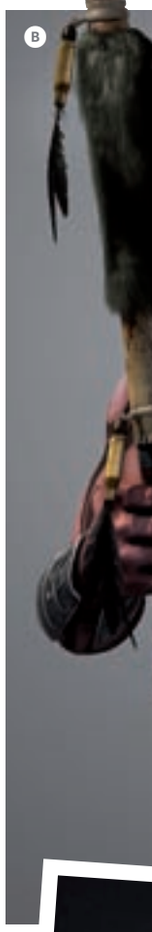
3DA: *For today's generation of students, what is the kind of educational grounding they should be looking to undertake to get a first job in character design?*
AV: First let me start by emphasizing my key grounding: drawing. This kind of education comes without much of a price tag attached, but it trains the eye as to shape and form when entering a 3D package. Another key element is design. There are so many robot mechs and futuristic soldiers. What separates your soldier from the pack? This can be a character's strength but unfortunately can also be its weakness. A very well executed man in a business suit will be received better than a poorly designed mech alien with rocket launchers on his back!

3DA: *What is your current or most recent role and how did you get it?*
AV: I am a character artist at Vicious Cycle. I was employed by a company in Florida named Shadows in Darkness. It was the outsourcing company that Vicious Cycle was working with at the time. Also, I previously held a position at D.P.A. with an artist named Alden Filion, who was then working at V.C. and recommended me. But above all else, I believe it was my portfolio.

3DA: *Is there much of a culture or professional working practice difference between working in broadcasting and working in a games company?*
AV: When working in broadcasting you occasionally run into a TV personality and are constantly around clients/contractors, so the atmosphere is a bit more professional. Overall though, once the video footage has been shot and the models have gone home, artists will be artists.

3DA: *What software packages and tools do you use for your character creation and why?*
AV: I use 3ds Max and ZBrush mostly. 3ds Max was the software I learned while studying in college, and ZBrush is my preferred character creation software because it allows me to sculpt on the model, unlike any previous 3D package. The tools and consistent new features that the software continues to add are astounding.

A



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C

Portfolio highlights

Abraham has worked on some very well-known projects, including:

2010 *Blood Bath and Beyond, PS3, XBOX 360*
2009 *Eat Lead: The Return of Matt Hazard, PS3, XBOX 360*
2008 *Ben10: Alien Force, PS2, Wii, PSP*
2008 *Dead Head Fred, PSP*
2005 *Bratz Rock Angels, PS2, Nintendo, Gamecube, Gameboy Advanced*
2004 *Star Wars: Wrath Unleashed, PS2, XBOX*
2003 *Dragon Ball Z Taiketsu, Gameboy Advanced*

A *Kitty*: A hard hitting female character from Blood Bath and Beyond on next gen consoles

B *Son of Nimlot*: This is a personal project featuring an American Indian.

C *Sonny*: A 70s-style figure from Blood Bath and Beyond. Check out the afro hair

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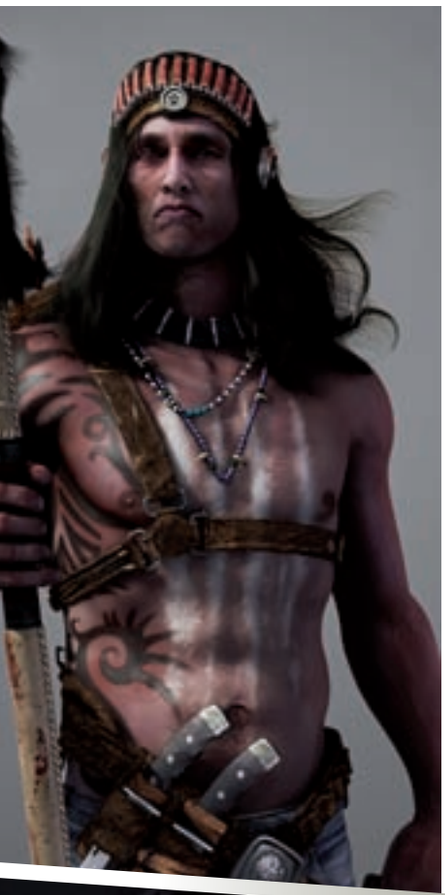

> I learned 3ds Max while studying in college, and ZBrush is my preferred character creation software because it allows me to sculpt on the model, unlike any previous 3D package

3DA: *Do you think there is a shortage of skilled digital artists, either in general, or specifically with the skills to create characters?*
AV: No, I don't believe there is a shortage of skilled digital artists. I don't think there will ever be such a shortage. The tools will continue to advance, the learning curve will decrease and the artists will continue to be given more freedom to create great characters.

3DA: *What are the key skills required to work as a character artist?*
AV: Team work. A good character is created by a team. All depends on the character, but more often than not someone else will work on the character file. Communication. Being able to take direction from the art director is vital for a successful character to be developed. It is not your vision, it's the art director's. Your job is to create it.

3DA: *Professionally, what's the most satisfying project you've worked on and why?*
AV: Many years ago I was employed as a 2D character animator but wanted to get into the games industry. I worked on a short after work hours, for what seemed like forever. When it was completed it was roughly two minutes long. Years later, especially now, I think of it as the most satisfying project because everything stemmed from that moment in which I realised there was more to achieve. A paycheck just wasn't enough. Clearly the most satisfying to date.

3DA: *Tell us what your dream project to work on would be...*
AV: The *Incredible Hulk* movie. I collected *Hulk* comics from issues 230-398. I learned from some of the best comic artists as well – for example Buscema, Byrne and McFarlane.

D *Eat Lead: The Return of Matt Hazard*: One of the levels on the retro-flavoured game on XBOX Live

E *Beyond speech therapy*: A 2D animation for the Beyond speech therapy charity

F *Matt Hazard*: Here's the game model for the man himself. The latest game features higher quality characters

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+ The best courses and freshest talent from universities around the globe...

Vancouver Film School

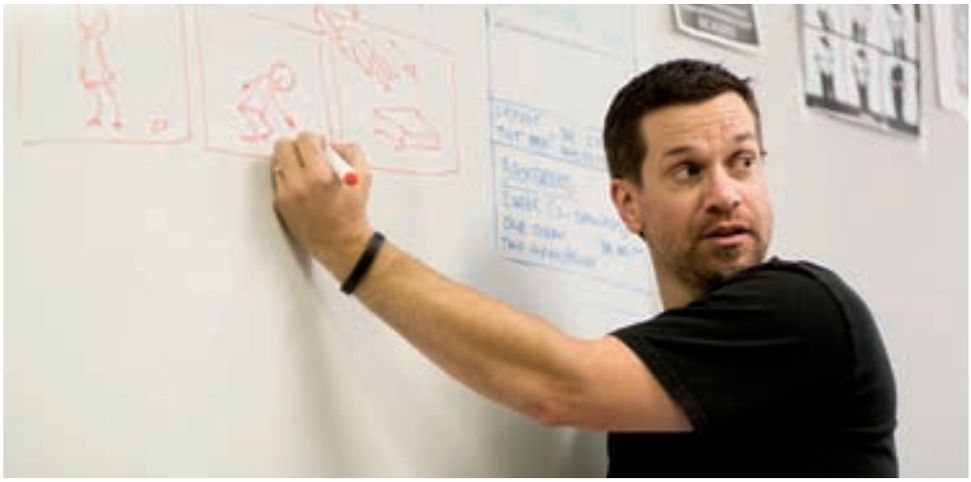
Study with the rising stars in CG for a big break into the entertainment industry

As one of the most well-known and respected art institutions in the world, Vancouver Film School is leading the way with its digital animation courses. Based in the multicultural city of Vancouver in Canada, students attend from all over the world for the opportunity to study on the school's prestigious programmes.

What gives VFS the edge is the dedication to providing students with a studio environment in which they can work with industry leaders while creating their exemplary show reels and films, explaining why graduates are so well prepared and go on to such great things, notably working on the likes of *District 9*, which incredibly had 43 contributing VFS graduates last year. Figures show that nine of the top ten highest grossing films of 2009 had VFS graduates in the credits, which will also explain the price tag of these well-regarded courses, bearing in mind the prospects that lay ahead of the students. But what really gets VFS results is its focus on the results. The school's programmes are intensive – either six or twelve months – and provide students with all the core skills they need to apply to their projects in a way that gives them full preparation for what lies ahead in their dream career. VFS is continually releasing well-armoured 3D artists into the world; taking a look at its YouTube channel with over 600 student demo reels and films will give you a taste of exactly what can be created and achieved within these intense months at VFS on one of the digital animation programmes: **www.youtube.com/vancouverfilmschool**.

VFS provides an option for those looking to study on one of its programmes but want to know whether it's right for them before committing, in the form of the Summer Intensive Programs. These are five-day programmes with hands-on experience led by its faculty of industry professionals. If students choose to take the full programme following the insight days they will deduct the cost of the summer classes from the full tuition fee, making this a great option for those wanting to take 3D seriously – aiming for the stars all the while.

Students of the 3D Animation & Visual Effects programme will not



> "Through our online presence and worldwide festivals, our students' films impress, entertain, and fascinate audiences while leaving a lasting impression on the global animation community"
>
> **Gregory Berridge,** Head Instructor, Digital Character Animation

VFS

Course details

Name 3D Animation & Visual Effects
Length One year
Fees $53,250 US Dollars
ENTRY REQUIREMENTS
Successful completion of the VFS Foundation Visual Art & Design programme, OR a visual art portfolio of work that includes life (preferred), still, or character drawings and 3D computer work (maximum 12 pieces). To gain admittance and begin studies in 3D Animation & Visual Effects, some 3D experience is required. However, if you do not currently have sufficient 3D experience you may be given conditional acceptance based on the strength of a combination of your other computer artwork (eg Flash, Photoshop, Illustrator, etc) and your drawing skills.

Name Digital Character Animation
Length Six months
Fees $25,500 US Dollars
ENTRY REQUIREMENTS
Successful completion of the VFS Classical Animation programme, OR a visual art portfolio of your work that includes life (preferred), character drawings and 3D computer work (maximum 12 pieces). As this is an advanced programme, your 3D work must prove that you currently have sufficient skills to excel in the programme.

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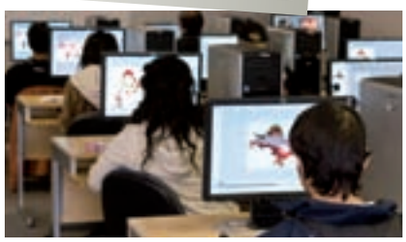
only study computer animation, but also fundamental traditional skills as well. Traditional subjects arm students with the necessary life drawing, concept art, character design and 2D animation experience they need to apply themselves to the computer-based training, which includes the operating environment, 3D modelling, animation and texturing. This foundation-building study is then followed by the opportunity to focus on a specific area of choice – 3D Animation, Modelling, or Visual Effects – where students go on to either develop a complete animated film, create a demo reel of production-ready models and an environment, or put together a VFX show reel.

Over on the Digital Character Animation programme, students are taken from their own original concept right through the production stages of storyboarding, modelling, animating, rigging, texturing and lighting, working with sound designers and editors along the way to get a complete insight into a prospective career in the entertainment industry. This programme utilises Maya throughout.

Heading the digital animation programmes is industry veteran Alastair Macleod, who has supervised the animation and motion capture of film and game titles that include *The Matrix Reloaded*, and worked as motion editor on *Lord Of The Rings: The Two Towers*. When you study at VFS you are given the opportunity to learn from professionals who know exactly what skills and knowledge you need to succeed, and how to get it. As 3D Animation & Visual Effects student Neo Jiet Shern tells us: "The teachers in our course programme are also invaluable in their knowledge and technical help. Without their help and advice, we would not be able to solve some of the more tricky problems we encountered. This project has led to my employment in Lucasfilm Animation Singapore and I am very happy that all the months of hard work and sleepless nights have paid off."



> "It was exciting to be taught by people from many different countries and industries. We didn't just learn about 3D we also learned how to be part of a team and develop friendships for life"
>
> **Margi Gassner,** 3D Animation & Visual Effects student

For those who aren't sure if digital animation is for them, VFS also run a Classical Animation programme, and interestingly some of the students from this have gone on to the digital programmes after graduation. Clearly, VFS offers many routes for students to find their own paths. And with rising stars from VFS like texture painter, concept artist and character designer Julianna Kolakis, whose credits include *Clash Of The Titans*, *District 9*, *G.I. Joe* and *The Mummy: Tomb Of The Dragon Emperor*, and Kolby Jukes, principal artist on *Mass Effect 2* setting the standards higher than ever, there is no end to the inspiration and opportunities that VFS can offer its students. It's there for the taking: the school provides the supportive environment that students need to achieve their goals, and as Alastair Macleod, Head of Animation, says: "The results speak for themselves."

Full course information is available on the website at **http://vfs.com**.

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Uni focus

B

A Saloon

» **Thiago Martins**
Course: Digital Character Animation
Time taken: Six-seven months
Maya, Photoshop and After Effects
"From the day that I finished the course until now, many good things have been happening. My work posted in magazines, a couple of interviews about me and the projection of the film on the internet have been very good, more than I thought it was going to be, actually."

B Friends

» **Sveinbjorn Tryggvason**
Course: 3D Animation & Visual Effects
Time taken: Seven months
Maya, RenderMan for Maya, Nuke, XSI, After Effects, Photoshop, Premiere
"VFS gave me the opportunity to really focus on my passions: animation and visual effects (and pipelines, workflow, scripting and other fun things too). I especially value the importance that deadlines have at VFS. They really force you to manage your time and work sensibly to get the most out of your time."

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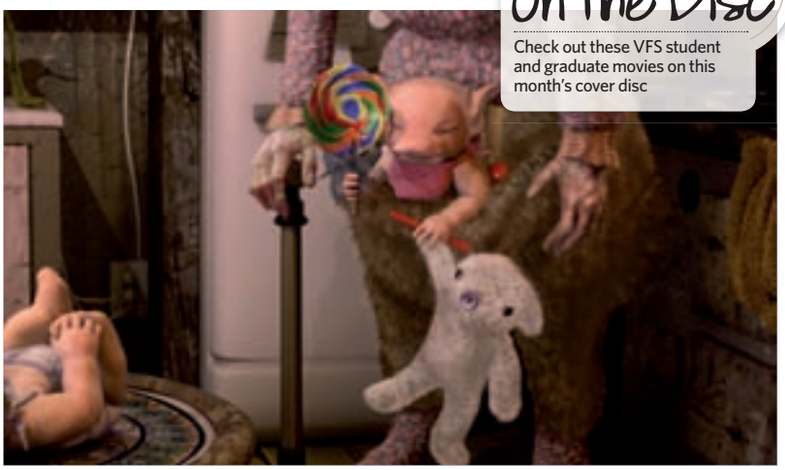
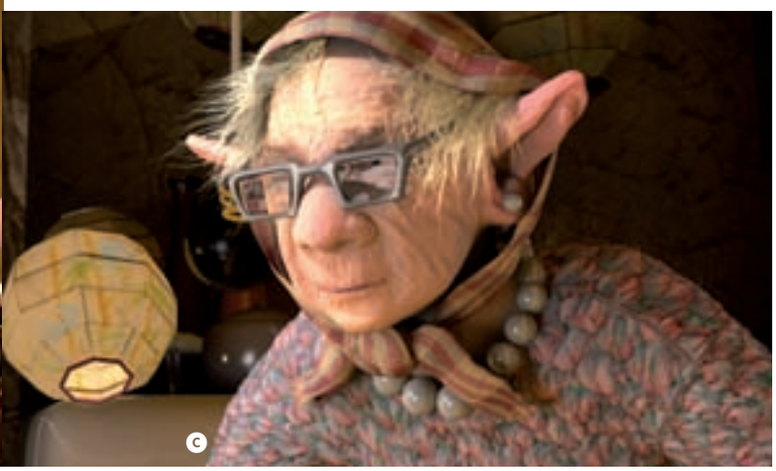
On the Disc

Check out these VFS student and graduate movies on this month's cover disc





C

D

E

C Little Dark Corners

» **Jae Hee Jung**
Course: 3D Animation & Visual Effects
Time taken: Six months
Softimage XSI, ZBrush, Photoshop, After Effects
"I try to make my work meaningful – to tell stories through images. These were about symbolism. I tried to tell a story through weird creatures; a strange pig baby and kangaroo lady creep people out, but they won't forget them!"

D The Summoning

» **Ignasi Duelo, Margit Gassner, Michael Sun and Neo Jiet Shern**
Course: 3D Animation & Visual Effects
Time taken: Six months
Maya, Softimage XSI, UVLayout, ZBrush, Photoshop, Nuke
"This was created by a team of four people from different nations: three VFX artists, one modeller/texture artist. We thought we'd learn more by combining different areas of 3D."

E A Modelling Reel

» **Rakesh Sandhu**
Course: 3D Animation & Visual Effects
Time taken: Six months
Maya, Photoshop, After Effects, ZBrush
"For me, my friends have had the biggest impact on my reel. They gave their views on what looks good and what doesn't. My reel was mostly a photorealistic one, as I'm a technical artist more than a traditional artist."

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F

G

F The Moon
» **Anna Tonrungroj**
Course: 3D Animation & Visual Effects
Time taken: Six months
Maya, Maya Blastcode, mental ray, Softimage XSI, After Effects, Photoshop, Boujou, Premiere
"VFS made me learn not to be afraid of learning new things each day."

G Maybe One Morning
» **Mario Brioschi**
Course: 3D Animation & Visual Effects
Time taken: Four months
Maya, Nuke, After Effects, Photoshop, Illustrator, PFTrack, RealFlow
"It's a really simple idea, but for me the passion for VFX is always the opportunity to express myself, trying to give a shape to my questions, my desires, my fears – and the challenge is to make them look as real as they are for me."

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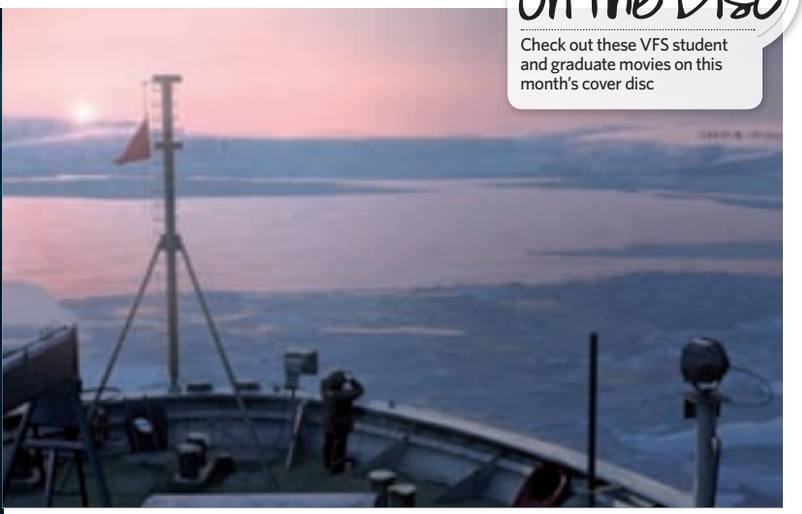

H

H Two Degrees

» **Elena Topouzo**

Course: 3D Animation & Visual Effects
Time taken: Five and a half months
Maya, Nuke, Photoshop, Fusion, PFTrack, Premiere

"My experience at VFS was really good. I got a lot of guidance, but in the long run it's the effort you put into a project that makes it worth it. I was lucky to have really amazing classmates who helped me throughout the course, and a lot of support from my family."

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